A

VINDICATORY SCHEDULE;

Concerning the New

CURE of FEVERS:

CONTAINING

A *Disquisition Theoretical* and *Practical*, of the New and most Effectual Method of Cureing *continual Fevers*, first invented and Delivered, by the Sagacious *Dr. Tho: Sydenham*.

ALSO SHEWING,

By way of *Preliminary*, the Indispensible Charge lying on *Physicians*, to Improve themselves, and the *ART*, with the Reasons why many palpable Improvements in *Medicine*, make so little progress.

Where a new *Hypothesis* of *Fevers*, for establishing this Method, is laid down, and several *Phænomena* are clearly Resolved, Applyed, and brought home to the Confirmation thereof.

With an Appendix of *Sanctorius* his *Medicina Statica*, for clearing the Doctrine of Insensible *Perspiration*, whereupon that *Hypothesis* is founded.

By *ANDREW BROUN*, M. D.

EDINBURGH,
Printed by *JOHN REID*, at his Printing-house in *Bell's Wynd*, at the head of the Court of Guard, 1691.
To be Sold be *John Mackie*, in the Parliament Close.

1166.d.25

MVSEVM
BRITAN
NICVM

TO

The Right Honourable

JAMES

LORD VISCOUNT of

STAIR

Lord *GLENLUCE* and *STRANRAVER*,

LORD PRESIDENT

OF THE

COLLEDGE of JUSTICE.

My LORD,

THAT this Essay comes not from Rallery, or Picque, and to pay home the World in its own coyn; nor yet in an ostentuous manner to impose upon Men, in a matter of such moment, I know no such effectual

way to evince, as by first submitting it to the Touchstone of so exquisit and solid a Judgment as your Lps. you my Lord being the *great Master* of Justice & Reasoning, must also be a Judge most sufficient, of what is Relevant or Consequential here: And further your learned Elucubrations in Natural Knowledge (so very near of Kin to Medicine) giving evidence that your Lordship is no Judge incompetent whither or not there be any sound Philosophy in mine.

By very good consequence then, your Lordships publict Character, bringing your eminent Qualifications upon the publick Stage, to exert themselves for general Utility, (the only Heroick Action Man is capable of,) at once giving you the oportunity, and making it your concern, to contribute all your Talents for the *publick good* and as a no small mean to that end for the Improvement of *Medicine* also, does notably both qualify your Lp: a very fit *Patron* for such a Subject, & encourage me to implore your protection thereto *life* & *health* being so great

great Blissings and Benefits to Mankind, makes it indeed no small part of the Politicians Interest, to lay out himself all manner of ways consistent with his Capacity and Function, for the advancement of Medicine, in relation to the preservation and procurement thereof to the People: as was lately done by the *Vice-Roy* of *Naples*, in ordaining several consults to that purpose.

Now besides such Consults as these to be authorized by the publick, *I* know no such effectual course for the growth and improvement of *Medicine*, as that your Lordship and others in Authority, indued with capacity, would be pleased to set a part some peice of your time, to pry into the *Medical Art*; and indeed this is so far from a digression from your main work, that being an extraordinary piece of service for the Publick, it seemes no small part thereof: for thus being in a manner Censors over *Physitians*, you would both excite their Industry, and Scar such as Labour to Shelter themselves there, out of the Starting Holes of Artifice and Prudence.

And thus may be in part, Recompenſced the Detriment that *Medicine*, and in Conſequence the Publick *Suſtaines*, by that Arts being under the misfortune to be Rival'd of the moſt pregnant Spirits by theſe other *Studies* of *Law* and Pollicy; *Such* being for the moſt part allured to the Culture of theſe Diſciplines, leaving *Medicine* to theſe of a lower Rank.

And indeed in this Branch of the *Politicians* duety, that moſt Stupenduous Witt, the Lord *Verulam* has ſo ſucceſsfully Laboured, that giving a *Preſident*, he has alſo given a *Patern* hereof; For that Fulgent Beam of Learning amidſt ſo many *diſpatches* and *blandiſhments* of the Cour, did not only diſplay a great many Reſplendent Rays of the firſt & true Experimental *Phyloſophy*, and deſcending into, raked up the Bowells of all Arts and Sciences: but dived ſo deep into the *Penetralia* of *Medicine*, as may give us an earneſt (to be remembered with regrate, that his Stares did not

diſpoſe

diſpoſe him alone to that Study) what ſuch an acute and Penetrating Spirit was Capable of in that Art, had the whole edge of his Vivacious Ingine been bended to *Medicine*, the Force indeed of the mind like all other things being diffuſed giving more Faint Hitts then being recolected & Intent upon one Subject it's able to do.

And ſeeing your Lordſhips *Stars* has diſpoſed you alſo beſide *Medicine*, and conducted you unto the ſpacious Feilds of the Law, where you have made ſuch ample Excurſions & Progreſs to the great Honour & Credit of this Nation, albeit with leſs general Advantage to the whole world, then if you had been a Son & Cultivator of this our Art; Yet it muſt be Confeſſed that you have done Nobiely, and made a Notable Eſſay to repair that Damnage to *Medicine*, that having ſeveral Sons, all of moſt *pregnant Spirits* (the eldeſt whereof, called thereto by the greateſt of Men, who muſt alſo be the

beſt

best Judge of Men deservedly sits at the Helm of this Nation, Your Lordship has bestowed one to labour in this Art also, who having already given to eminent a *Specimen of Sagacity*, by his imbraceing this method of the *Cure of Fevers*, it cannot be questioned, but time will compleat in him all those Expectations becoming the Son of such a Father.

Emulation and *Envy* notwithstanding of all the Attempts they are capable of, can never be able to cloud Your Lordships auspicious conduct, suitable to the station that Providence put you then in; and that in the times of greatest dangen this Nation was in, your Lordship being like another *Joseph* by Providence kept at that time in the Government to allay and ward off the current of the oppression of these minds, but when designes became to be pousseth with that violence, that they were too hard for such mild measures, your Lordships Station then made you capable of; another

cast

cast of Providence, as a proper expedient, sent you into that Countrey where was contrived, adjusted, and from which shortly thereafter was brought over, *Our Deliverance*. What your Lordship's part was in this Transaction, tho reason of State may still conceal, yet the care & concern with which that great Instrument of *Our Liberation* still follows your Lordship, gives full evidence that you did act a part suitable to your self in that Juncture also.

And indeed your Lordships Family falling under so benevolent *Aspect* of that *Heroick PRINCE* (Now our Soveraign) has a notable opportunity put into your hands, to signalize your Nobility with a true and radient Lustre, in your being Instrumental to bring about such Improvements as are suitable to the Soil and Genious of this Country, by such *culture* as your Lp: and other publick Spirits, knows it by Industry or *Reformation* capable of, & would quite change the figure of this languishing

ing Nation: And among others the Improvement of the desolate state of Medicine also, of which upon some representation made by me thereof, your Lordship was very sensible, and to this purpose its humbly represented, as a propper expedient, that publick Authority would be pleased to Incite and Incourage the *Colledge of Physitians* here, by authorizing them to such Consults as these lately held at *Naples*, to make all appositt Overtures for the Instauration of *Medical Practice*.

If I had borrowed to this Essay any materials from the rich Mine of your *Physiologia*, this critical Age might have constructed it a forestalling of your Lordships Patronage, and attributed your protection rather to recompense, than to the product of an unbayessed Judgement, and withal as your Lordships exquisite Thoughts are uncapable of any accession from my minuteness, so I humbly depositate mine at your

your Feet as a Testimony of my Veneration, and take the liberty to Subscribe my self,

Your Lordships,

From my Study, *Edinburgh*, the 13th. of *July*. 1691.

Most Humble,

Obedient,

AND

Faithful Servant,

ANDREW BROUN.

ANDREW LOCKE

TO ALL INGENIOUS AND FAITHFUL Physicians.

IF we consult Antiquity, it will be found, that the generality of *Physicians* for a succession of Ages, did rather rely on the discoveries already made by the immortal *Hippocrates*, than endeavour to find out new ones. They esteem'd themselves sufficiently qualified for their Office by the knowledge of his Writings, in which they believed all Medical Skill was comprehended; so that in process of time they came to be of such Authority, that to entertain Sentiments of the Nature and Cure of Diseases differing from these already received, was a *Heterodoxy* not to be tolerated. And this

obtained till *Galen's* dayes, who had the confidence to dissent from *Hippocrates*, the great Restorer of Medicine, about the Nature and Cure of several Diseases, which for the most part he strains to a *Theory* agreeable to the *Philosophy* of his time, that pesters not only *Medicine*, but *Theology* likewise, and that to this day. And thô in the *Ætimology* of Diseases he wreasts the *Symptomes* to his pre-conceived *Notions*; yet such was the genius of the succeeding Ages, that they were content to follow him as a *Patern*, and to acknowledge him for a *Text*; so his Works in succession of time came to be equally esteem'd with *Hippocrat's*, and then nothing was to be received that was not agreeable unto them. And as this for some Ages did manifestly hinder all advance in Medicine, so of necessity it creates a vast Opposition to all new Inventions; of which the *Physiological* Discoveries in the beginning of this Age are an Instance with a witness. And thô they had the demonstration of our *Senses* to support them; yet the Credit and Reputation of the ancient *Theory*, (that was quite overturned by them) was such, that with difficulty they were brought to have reception. If it so fared than with the Discoveries that were not only

only reasonable, but demonstrable by our Senses; what can we expect shall be the Fate of those that have not that advantage to pretend to? especially if we consider that what we plead for, is, *A new Cure of Fevers*, that is, to encounter the opposition of the received practice of all former Ages; which generally speaking was far more solid than the *Theory*.

I should indeed then both fail of my design, and evacuate the Merit of my Attempt, (so be it may justly challenge any) if I should offer this my *Mite* to the *advancement* of *Medicine*, and not do it with all the imaginable *Circumspection*, and *Observation* capable to mitigate that opposition, and make it acceptable; As first, not to present and submit it to you, whose *Experience in Medicine*, is able, solidly to determine whether the reasoning here be conclusive or not: And whose *Probity* and *Candor*, will never suffer you in a matter of such import, to be byassed from proferring the Sentiments of a well ballanced judgement; to you then I offer it to be seriously considered, whether or not the method I here endeavour to vindicate, shall not only through time, be without censure, but at length, (as some of the most eminent *Physicians* in this place, are already

of

of Opinion will totally prevail, to the great Credit of *Medicine*, and the inestimable Good of *Mankind*; which will indeed fully satisfie the longing wishes of him that is,

A Real Well wisher of You, and the ART,

A. B.

AN ATTESTATION

Of the Mr. of FORBES His Case.

Edinburgh, 7 August, 1691.

THE Master *of* Forbes *coming from* London *falls sick of a Fever at* Newcastle, *where he lay three weeks, and parting from that before his Recovery, he fell again exceeding ill at* Edinburgh; *where considering his own desperate condition, and the multitude of ineffectual remedies used in his last Fever, for a whole moneth together; And further hearing that there was a* New Method of curing FEVERS, *practised by some in that place; he resolved with Advice of his Honourable Relations, in this Extremity to try the* New Method, *and accordingly* Dr. Broun *was called, so with* Dr. Burnet, *the Ordinary, and* Dr. Bruce, *their Advice, that* Method *was prosecuted, as in a very dangerous Case; so by the* Blessing of GOD, *with very good success, upon that Noble Patient: And now because some persons envious of the good of Man-*

Mankind, and the improvment of Medicine; would smother this singular Instance of the Efficacy of that Method; *And do therefore maliciously give it out, That this Noble Patient was under no Fever: But the symptoms under which he laboured, being conspicuous to all that visited him, are here Represented to the Curious, attested by himself and his Lady, who attended him constantly; And by several other Persons of Honour and Credit, who did frequently Visit him, As follows,*

A Frequent Pulse.
Watching and Raveing.
Continual Vomiting.
Frequent Fainting, and total Dejection of Aperite.
Extreme Weakness, and heavy Sickness.

ALSO,

Such excessive drought, that he thought he burned within, and was so unquenchable, that he drank Four *Scots* Pynts, and more, of cold Water, in twenty four hours.

All was remitted, and Cured by Bleeding one, and Purging him five times, and quieting after

after each time, till all the Symptomes abated.

There having been some debate among the Physicians, *concerning the method of Curing this Fever, is a Demonstration, that it was no weak one: Besides, that such of them as now have the confidence, to say,* It was no Fever. *Did frequently in most of our presence own it to be such,*

Sic Subscribitur,

WILL. Mr. of FORBES.
ANNA FORBES.
RO. GORDON of Gordonstoun.
JA. FORBES, Coll.
J. BRODIE, of that Ilk.
SAM. FORBES of Foveran.
DA. FORBES, Advocat.
JOHN FORBES, of Forbestoun.

THE PREFACE

IF any ſhall marvel why, unto the great number and bulk of Books under which, as a ſurcharge, this World in a manner groans; I ſhould add one: Let him know, that this reprimand does very little concern the Phyſitians of this Nation; for while the Phyſicians of all places beſides, has liberally profered to the World their ſentiments in Medicine, ours has been ſo little taken with the Itch of writing on that ſubject, that they have modeſtly kept their thoughts to themſelves. And indeed I, as one of the leaſt, ſhould have been ſwallowed up with ſilence, in the vaſt gulf of time with the reſt; unleſs the like caſe, that is reported to have befallen the Son of Crœſus, had befallen me: For he having been from his birth dumb, ſeing a Souldier ſet upon his Father, (the vehement fervency breaking the bonds that keeped his Tongue fettered) cryed out, Souldier do not kill Crœſus! and indeed the like ſeeming to have hapened to me, has had likewayes the ſame effect: For I having been alwayes Tongue-

tied as to this manner of ſpeaking (that is writting) until I perceived the Endeavours of ſome, to attack not only my Name and Fame, but which is far more; to aſſault with Calumnies and Reproaches, the moſt genuine and ſolid Methods of Medicine, about the Cure of Continual Fevers, *invented and delivered by that Expert Dr* Thomas Sydenham, *and very earneſtly embraced by me, as having found them moſt ſucceſsful by experience: In ſo much, that for ſome time bygone, in which Fevers have been very fatal to this place, there has been few that died thereof, which fame* (as much tenacious of depraved fictions as a Meſſenger of Truth) *has not ſcattered far and wide, to have been deſtroyed by me, or this Method: Whence fearing a danger yet more from this, that by the neglect of this moſt excellent Method, in this manner noted with Infamy, many of my Countrey-men and Neighbours may be indangered or loſt; what wonder is it then, if ſo great evils private and publick, excite in me ſuch an ardor, as bruſting the bonds of my Tongue alſo, make me poure forth theſe faltering words.*

And further, as in ſome caſes evil manners uſe to beget good Laws; ſo perhaps in this caſe, Reproaches and Calumnies producing Defenses againſt them, may alſo produce and diſplay more plainly the truth and real improvements.

Since

Since then my Reputation seems to suffer Martyrdom for the Publick Concerne and Safety, all kind of reproaches being liberally bestowed on me, for this Cause, and seing I despise my Private utility in respect of the publick Commodity; And neglect the dictats of Self-interest, that whispers to me, that it were easier to go in the broad way with the multitude; or at least to keep such a notable Improvement to my self, then to have left that way; and invite all to be partakers with me in that discoverie: I hope then what I write will be the more acceptable to all good and ingenuous Men.

Having also set before me that mark and more Noble Aim, the general good of Mankind; *I suppose I may reach it the more happily by treading the path of true Vertue; and injuring or reproaching no Man: Yea, not so much as indirectly; unless when I am hampered in the difficulty, requiring private Reputation or Commodity to be offered up for publick safety: As when these offer to start up in the way to barr out this or any other Improvement.*

As few in this place, are ignorant of the occasion which gave rise to the Calumnies with which I complain this Method and my self to be blundered, so there is few that know the real truth and Circumstances of the thing as it was

acted: Wherefore I presume it will not be unacceptable to ingenious Persons to hear a faithful Relation of the whole matter.

If by vertue of the advancement with which the writings of the Sagacious Dr. Sydenham had before inriched Medicine, the rest of his dictats should vindicate to themselves as their due, authority and trust; I, for my part, did alwayes think that these were most deservedly to be bestowed upon them: Especially since I had found his former Improvements, being subjected to the Touchstone of Experience and Practice, so seldom to defeat the expectation and wishes.

But in the Year 1687 perusing the first Edition of his Schedula Monitoria, where he delivers as confirmed by manifold experience, not only a new, but a quite contrarie Method to the common, of Curing Continual Fevers: I did long befitat, thinking that either he, or all other Physicians were grosly deceived, about the Cure of Fevers; if not, as their Patients use to be, they were in an high Delirium; and lest the preconceived opinion that I had of the Mans Ingenuity should so far impose upon my Credulity, as to draw me into an error likewayes with him; and make me to experiment that method, when I knew not but I might run the hazard to sacrifice some to my Temerity; nothing could settle my tossed thoughts below the sight and knowledge of the thing it self. Pre-

Presently therefore hastning to London, *and having met with the Man, and exposed the occasion of my coming, I found all these tokens concerning him and his Practice, that use to beget in warry and prudent People making serious Inquiry, Trust and Knowledge. Then after some Months spent in this Society, returning home as much overjoyed as I had gotten a Treasure; I presently set my self to that Practice: Which has proved so successful to me, that since that time, of the many Fevers that I have treated, none were unoured, except my Lord* Creichton, *whose case is related here: And another Woman, whose dangerous circumstances made her condition hopeless.*

And among those that were cured, as there were some afflicted with that disproportion of the Symptomes and other circumstances commonly denoting malignity; which may extol the efficacy of the Method: So there were some of my neareſt Relations, as my Wife & six of my Children, taken also with pernicious Fevers thereby likewayes cured, which is an evidence of my sufficient proof of the Method: But in the mean time what proportion of these that are medicate by the common Method is lost? which whither it be by the force of the Disease, or by the Method, it seems highly the Physicians concern to enquire.

Coming then to my Lord Creichton *the sixteenth*

teenth day of his Fever, when he was given over by all for dead, his Grave Cloaths being prepared, I did reason with my self, if, exposing the credit of this Method; yet in the Infancy to such an hazard, it should receive the foil, it would surely be a difficult task to bring it in grace; especially with the Vulgar: But on the other hand weighing, if I could stipulate the Method with one or more of such Instances of success, that this would by great steps, and more then the ordinary progress of many Years, elevate its Authority and Credit; And so I should, hastning that pace of Improvement to the great benefit of Mankind, superate these obstinate difficulties put by humane Infirmitie, not to say worse, making such always slow in advance: For in so far only as they have Authority, the best and most salutiferous Methods do only streach their Protection and Safe-guard. And further, I being seized with a most ardent desire of the safety of that Noble Person, there was scarce any thing that I esteemed too much to expose to hazard, if it did bring any glimses of hope of his Recovery: For all the hope that remained with me of his Health, seemed to ly in the prosecution of that Method as the caise would bear.

But surely Divine Providence esteeming me unworthy of such auspicious success, or to work so stupenduous a miracle; And also finding me altogether

gether Incapable to bear so prodigious a Fortune, did therefore suppress and defeat my hope, and perhapes Ambition, in the Fate of that Noble Person.

Now followes the History of his Disease from the time that I did first see him.

In the 16th day of his Fever (the chief symptom whereof being a high and difficult breathing, threatning suffocation, and that all along the Disease.) He was taken with a grievious Paroxism, wherein he lay several houres Dumb and Deaf, neither (like a Man expiring,) did he know these standing about him, under this fit his asthmatick Paroxism did remitt, by the use of an antiparalitick electuary his Speech and Hearing returned, but accompanied with a high Delirium. This morbifick Matter being now turgide and moveable, and further Fluctuating from one place to another, and the translation thereof into the Lungs being again impendent, by asthamatick and anhelous Symptomes beginning; seemed to insinuate the Indication of Derivation and Evacuation of that Matter, and that not only according to the rules of this Method, but also of the common Method, both coninciding in this point of Indication in a Body (Especially such as this patient had) filled with viscuous Humors; his Strength and appetite being moderatly consistent, and some glimpses likewayes of Concoction appearing in the Urine.

Three

There is then Administred to him in the 18*th. day, a lenient potion in partited Doses, which gave several Stooles without any Pain or prostration of Strength; after which the anhelosity and Fever seemed much to be alleviat, and the Delirium altogether to be gone, in the Evening a sleepiness seased him, and in the night he had several stooles; Neither the day following was the loosness altogether stoped, now his strength & appetite being consistent, & the dejections being more urgent in frequency then quantity; No* Indication *did yet perswad the interposing a cheek to them; And the sleepiness continuing admonished caution in the use of the Paregorick; Yet toward night it was determined by he use thereof to Moderat, but not to stop the loosness. Here the* Curative Indication *in respect of the disease, and* Conservative Indication *in respect of the Strength interferring, required great Caution, least aiming at the Cure of the Disease by indulging the loosness, the Strength might be infringed, or on the other hand, when the Strength should be consulted by binding up of the Belly, the Disease and Morbifick matter should become more Impacted, and Regurgitate on the* Pulmons, *then having exhibite that night two small Doses of the* Paregorick, *I seemed to hitt the marke: With which Method throw the whole course of the Disease he was treated: Giving less or more Vent to his Belly by*

the

the counſel of the more preſſing Indications, *and that by the uſe or abſtinence of the* Paregorick *interpoſing a Moderately warm Dyet, and expectorating* Lohoch, teſtaceous Pouders, *and* volatile Salts, *in ſmall partited Doſes. And indeed this Method ſeemed in ſo farr ſucceſsful that every one that viſited him had great hopes of his Recovery, until the 24th. day of his Sickneſs in the morning, the* Morbifick *matter falling again precipitantly into the Lungs, (notwithſtanding his Belly being ſoluble, and neither, in reſpect of the moſt preſſing* Indication, *too much) raiſed again an high and Vehement breathing, moſt difficult expectoration of viſcid Flegm, which threatned to ſtiffle him, with an intenſion of the* Fever, *all which increaſſing, towards mid-day, this Noble Perſon Expired.*

And here it comes to be obſerved, for the Influence it might have upon this Patient, that, that day the Air was infected with the thickeſt Miſt has been ſeen, now how much ſuch Air Influences many Bodies Diſpoſed to receive the impreſſions thereof, notwithſtanding the cloſneſs of Roumes and Fires, many can teſtify by the effects thereof in themſelves, and is further very clear from the Doctrine of Perſpiration, *by which appears how much the Impurity of the Air contributes both to ſtop the perſpirable matter, and to difficultate the Bloods paſſage throw the Lungs; As will be clear afterwards.* In

In the Body being opened all the Bowels and solide Parts were found to be sound, and his Disease to be only in the Fluides, for the Wind-pipes in the Lungs were so puffed up with viscide flegme, that a Tub being fixed to the Trach-artery, *and blowen as hard as one of the bystanders could do, yet the Lungs could not be streatched to any further dimension.*

This then is the case that has raised such a Storm of Calumny against this Method: And indeed least Men should think that there is no case so full of difficulty and danger, which will not yield to an effectual Method, therefore this, altho in many it has been formerly effectual, could only prolong his Life for eight dayes; and make such a turn in his condition, as to give no small signes of recovery; with a perfect tranquillity all that time both in his Body and mind.

But now to return to the Method, which can be no more convelled by this singular Instance, yea by many more if they could be given, then other methods may be, under which there are so very many that dayly miscarry, especially seing this method is so much confirmed by the experiences of many Physicians *both at* London, *and here Practising it so successfully; that it is rare if at all, any Person does dye under it: By which its use and security is sufficiently confirmed.*

Moreover, in this Essay, I have further attempted

ted to shew how rational a Method *it is; And that in favours of such Pallats, as can relish nothing without that.*

And the Reasonableness thereof will be more obvious to any that will with me perpend the progress of the Operation *of the* œconomie, *and remarke that the* animal œconomy *is founded in a* Mechanick *structure, to witt, in matter and motion: Upon whose Integrity and Vigour the soundness of the* œconomie, *and from whose* Labefaction, *the vitiation thereof depends, and so this* Machine *like other* Engines *has a principle measure and end of its motion: The prineiple is the first* Impellent *or* Impetum Faciens, *according to* Hypocrates, *or the* Archeus *according to* Helmont, *or the* Spirits *according to the common opinion, the necessity whereof is clear in the sequel of this discourse: to the measure of the motion there is required the due* Energie *of the* Impellent, *and the* Aptitude *and* Sequacity *of the moveable matter; To which when it is liquide, there is required also the due* Aperture & Smothness *of the passages throw which the motion is to be made.*

The Energie *of the* Impellent *vitiate is either primarie, and not depending upon the Fault of the moveable matter, and this seemes a case altogether beyond Art to repair: Or its Fault is dependent, and that is either when its* Energie *is*

augmented

augmented, as when the Humours or Organs do not yield to its due Impulſe, *then to attaine its end, it adds more force; Which often making the motion to be propagated beſide the deſigne, terminates in* Colliſions *and* Reflections; *As if the* Impellent *were affected with* Fury *or* Anger: *As it ſeen in* Convulſions, *and* Hiſterick Affects, *and in* Fevers.

Or the Impellent *may be vitiated by its* Energie *diminiſhed, as when it is ſtupified and* Inviſcat *by groſs Humores, as is ſeen in many* Chronick Affects.

The Aptitude of the moveable matter in the ſolid parts is vitiate by their rigidity, which depends upon groſs Humors that fill up their Fibres, *or their* Junctures *or* Hinges, *upon which in their motion they are turned: the fault in the liquide parts, ſuch as the Humors, whither Alimentitious or Excrementitious, depends upon there groſneſs or viſcoſity alſo; which ſoon begets ſlownes, Imprinting a blemiſh upon the functions, & eluding the end of the* œconomy; *Notwithſtanding the Incitation of the* Impellent, *and its outmoſt* Effort *to attain the end of the* œconomy.

The faults of the Channels & Veſſells conſiſts either in their ſtraitning obſtructing or Scabricity? *Which alwayes depend, unleſs when they are from an external and compreſſing Cauſe, upon the ſame groſneſs of Humors ſtuffing their Chanells*

Chanells, Coats, or Fibres.

So the fundamental cauſe of moſt, if not all, Diſeaſes, ſeemes to be the grojneſs of the Humores cauſing their ſlownes, making ſoon bad Impreſſions upon the functions; To overcome which, providing the Impellent *be veget and not Inviſcat, it ſtirs up ſtruglings, whence comes* Orgaſimes, Reflections *& other depravations of motion, as conſequential to the attemps for obtaining the due meaſures of its motion.*

Now from this Eaſie & Obvious Hypotheſis *the Nature of* Fevers *is here clearly enucleat, whilſt Authors feign many* Chimerical Phantaſmes *to explain the* Phænomena, *by which they become rather the more Intricat.*

It ſeemes likewayes not improbable that the moveable fluide Matter, being deprived of its due motion, acquires various Configurations of its minute parts which make it troubleſome to the Fibres or Channels of the Veſſels: and this ſeems withal to be the Immediat Material cauſe of many Depravations *of motion, ſuch as* Refractions, Reflections, *and* Colliſion *raiſed by the incitation of the* Impellent; *and ſo from the complication of theſe, the varietie of ſymptoms, and the indefinite multitude of Diſeaſes is begotten.*

And even as that motion of the blood, commonly called Circulation *or* Circuit *of the blood, did ſtrangelie ly in the dark, for many*

Ages

Ages; and was with difficultie received by many, becauſe which was often brought to its reproach, that although it ſeemed to illuſtrate the Theorie *of* Medicine, *yet it made no improvement in the practice thereof: ſo now that noble invention will not only be delivered from that reproach, but will be yet further imbelliſhed, if we can evince this motion of the blood vitiated,* viz. *its ſlowneſs depending upon groſneſs to be, if not of moſt diſeaſes, yet the neareſt and continent cauſe of continual Fevers: And moreover if it can be ſhown of what* Concatenation *or* Complication *of cauſes this neareſt cauſe by order or congreſs is fomented: how many fruitful & ſolid* indications *altogether formerly in the dark, may there be drawn from thence? eſpeciallie ſeing we may be furniſhed with ſufficient means to ſatisfie theſe* indications *& that either by the* correction, intercepting, *or* eradicating *of thoſe cauſes being diſtinctlie known.*

And ſo I have expede this method *of the famous* Sydenham Theoretically *and* Practically *with as much Brevitie and Perſpicuitie as I could: but with what fruit or fate I know not; but if this eſſay be received with the ſame* Ingenuitie *it is offered, if it do not reach to the full deſign, it will at leaſt as is hoped be favourablie conſtructed: For many may run at a prize,*

but

but only one enjoyes it: And amongst all that have attempted to make discoveries, none has been so happy as to discover all; but one has found out one thing; and another an other thing: And Chance rather than Art hath led many Searchers beyond their Intensions *to discover notable things: Some whereof may bring light, and other some may bring Fruit to* medicine; *out of which the succeeding Ages by a prudent choise, may perhaps gather materialls to compile a more solide* Systeme, *especially of Practical medicine, then is yet extant: To which whither or not this attempt may contribute any thing, let others judge; but not these, that by their precipitant sentences against this method, have made themselves parties in this* Plea.

If no other advantage come of this design, this at least I hope may be the effect of it, that as the barking of the little Dogs raises the courage of the great ones, so these aimes may rouse to the more profound diving into the sublime and obscure Nature of Fevers; these.

Quibus ex meliori luto finxit præcordia Titan.

But whatsomever benefit or advantage may come to the Publick by this design, unto my self praise, or advantage, I expect none; because herein having ingaged against so many, who perhaps

perhaps esteeming themselves obscured, and consequence not a little injured, will necessarlie therefore become picqued; and follow closs the opportunitie and advantages of their resentment.

It being also very certain that in proportion as this Essay appeares fraught with any benefite to Mankind, that the wicked *Serpentine brood* still big with malice, and envious of the good of Men, and which was never more *Dominant* then at this time; Will rake all the corners of *Hell* for *Venom* to bespatter it with; And this may be a Grave marke, by which Honest Men that are not so very *Penetrating*, may Judge whither it contains any thing useful or not.

And as it falls out for the most part in the World, that man makes but a sorry bargain, who gratifies one to the (altho but supposed) detriment of another; the resentment of the injury often proving more heavy, then the result of gratitude for the benefite done can any wayes allay: Reveng being a natural, is also a rank thriving-weed in the mind of man; Whereas gratitude being like an exotick plant requires diligent culture to make it grow there.

But above all, benefits done to the publick, meeting with least acknowledgment and recompense, (having so many concerned have for the most part therefore none concerned) do therefore strangly ex-

pose

pose the Benefactor to the resentments of those that suppose themselves injured, for private and publick Interest seem to be always at war, where the publick receives the foill: And indeed therefore I might have consulted my own praise and profit more, by treading the broad way, and beaten path with the multitude, thô with ever so much hurt to Mankind.

But this is not all, for the World is no more Barren of gratitude and acknowledgment, than it is fertil and productive of Calumnies and Slanders: And these levelling at reputation and Good-name, throw them oftentimes wounding our Fortunes, (the Integrity and Increase of the one depending much on the soundness of the other) makes him that steals ones Goods, only so much the less faulter, than him that wronges their name, in respect he that steals does it with design rather to advantage himself, than to wrong his neighbour: but he that wounds ones name, doing it maliciously, has nothing for most part by the loss, and even this atrocious cryme, being of deeper dy, has also many more intangled therein, then people are well awar: for not only the first broaching and venting of calumnies with design, is culpable, but also all that propagate the same, since it is no more certain, that fire dies without fewel, than that injurious calumnies and slanders die without their being kept in life, by their be-

ing propagate and handed from one to another: the heavieſt part then of the guilt ſeems to lye in that propagating, and ſo on the Propagator: And the want of an injurious deſign in them that do it, can no more excuſe here (all the ſtrength of excuſe lying in the like ſtupid inconſideration of the neceſſary conſequences of ſuch deeds) than he that either hands, or trains with fewel a Fire, tho kindled by another, into the Thatch of a Mans houſe, can be excuſed by pretending Inadvertance or inconſideration; the effects of the one being as obvious as the other: And ſo the matter being duely conſidered, makes the one-caſe of no leſs atrocious guilt than the other.

IF any quarrel the Language, or Stile, let him remember the caſe of the Son of *Cræſus:* This being the firſt *Eſſay* I have made to ſpeak after this manner, no wonder, it be not ſo very *Articulate*, as Uſe (which perfites all things) would have made it.

But however defective it ſeems to be in this point; yet ſome Judicious and Ingenious perſons have given ſuch a Teſtimony of it, as may perhaps make me be lifted up, above meaſure: Wherefore I hear there is ſent a Meſſenger of Satan to buffet me, *which being likely neceſſary, is not unacceptable to me, loftineſs of mind, indeed blaſting the beſt and nobleſt Actions of Men.*

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ERRATA.

Epistle to Physicians page 1. line ult. read *Heterodoxy*, p. 31. l. 24 *for that*, r *the*. p. 4. l. 3. del. *the*, p. 8. l. 8. for *touching* r. *choosing*. p. 16. l. 7. for *choising* r. *choosing*. p. 17. l. 10. for *samen* r. *same*. p. 21 l. 12. del. *be*. p. 24. l. 16. for *steering* r. *steering*: p. 25. l. 1. for *enter* r. *center*, p. 26. l. 17, del. *of these*. p. 28. l. 11. r. *comprehend*, ibid. l. 24. r. *affects*, p. 42. l. 25. r. *too*. p. 38 l. 61 r. *chiefs*. p. 42 l. 1 r. *their* p. 48 l. ult. r. *therefore*, p. 54 l. 10 r. *of*. p. 61 l. 7 r. *subsidiary*, p. 62 l. 23 r. *measures* p. 65 l. 17 r. *one*. p. 66 l. 9 r. *thorow* for *throw all throughout*: p. 67 l. 19 del. *to*, p. 72 l. 25 r. *from ratio cinatson only*. p. 90 l 31. *had never*, p. 103 l. 11. dele. *proportionable*, p. 104 l. 5 r *its*, ibid: l: 9. r. *ordinary*, p. 107 l. penult. dele. *their*, p. 119 l. 2, for *which* r. *so that*. p. 131 l. 20 r. *of the*, p. 135 l. 8 r. *infirmity*, p. 140 l. 13. *visive*, p. 141 l. 16 r. *it be*. l. 22. dele. *a*. p. 145 l. 1 r. *was near*, for *throw*, r. *all along thorow*.

Epistle to the *Physicians*, pag. 2. lin. 5. for Epidemiology r. Etiology, in the Preface, pag. 13. lin. 2. for Orgasmes, r. Orgasms, pag. 13. lin. 12. for Approve, r. Disapproves, pag. 210. lin. 1. for Evacuationly, read Evacuations.

Act of Council.

AT *Edinburgh* the Twenty third Day of *July* 1691 Years, anent the Supplication given in to the LORDS of Their MAJESTIES Privy Council, be Mr. *Andrew Brown* Doctor of *Medicine*; Shewing, That, where the Petitioner has Compyled and Printed a Treatise, intituled, A *Vindicatory Schedule about the New Cure of Fevers*, be humbly conceaved their Lordships would not deny him the ordinary Priviledge allowed to Authors, and Composers of Books: And therefore, humbly Supplicating the said LORDS would be pleased upon consideration of the Premisses to give and grant sole Priviledge and Licence of the Printing of the foresaid Treatise, in whatsomever Language, to the Petitioner, or his Order, for the space of Nineteen Years: And to Discharge all Persons from Printing, Re-printing, or Importing, and Vending of any of the saids Books within this Kingdom for the said space, without the special Licence of the Petitioner, or his Executors, or Assignes; And that under the pain of Confiscation thereof, to his, or their behove, beside what farther Punishment their Lordships should think fit, as the said Petition bears. The LORDS of Their MAJESTIES Privy Council, having considered the above Petition, given in to them be Mr. *Andrew Brown*, Doctor of *Medicine*; They grant the desire thereof.

Extracted by me,

DA. MONCRIEF *Cles. Sti. Concilii.*

A TABLE
For explaining the hard words of this Book, to the Vulgar.

Abdomen, (signifies) The paunch or rim of the belly, including the skine, fat, and muscules thereof.
Attrition, A grinding or braying.
Antecedent cause, The cause of a disease immediatly before the neareſt cause.
Capillary vessels, As small as hairs,
Cathartick, A purgative Medicine.
Coagulation, Congealing.
Crisis, The sudden termination of a disease.
Crase, The temper of the parts or blood.
Concatenation, A chaining of causes, and effects.
Continent cause, The immediat cause of a disease.
Diaphoresis, A breathing out thorow the superfice of the body by sweat or otherwayes.
Diaphragma, The Midrife.
Endemical disease, Which is very common in a place
Fibres, The small shreds constituting the fleshy or nervous parts.
Fomes, The feuel of a disease.
Glands, Kernels.
Globuls, Little balls such the blood are full of.
Grumasie, The solid parts of the blood that subsides,
Hemoragies. Fluxes of Blood.
Heterogeneous, Another kind.
Hypotheſis, A supposition, or the plate form of any thing represented.
Identitions, The same.
Idea, The representation of any thing in the mind.
Intestines, The guts.
First impellent, The first mover in the body.
Lixivial, Belonging to lie made of ashes.
Maze, A labyrinth.
Muriatique, Briny.

Meſen.

Peritonæum, The membran keeping the guts together.
Novelists, New Writers.
Orgasme, A tumult or commotion.
Oesophage, The weasane.
Animal œconomy, the order in government of the animal.
Paregorick, A quieting Medicine.
Paroxisme, A fit of a disease.
Perspiration, The great evacuation continually made throw the pores of the body.
Pulmonick, Belonging to the lungs.
Phœnomena, Appearances or effects of hidden causes.
Phlebotomy, Blood letting.
Regimen. The government of the six things called not natural.
Scabrosity, Roughness.
Schema, A figure or representation of a thing.
Smegmatique, Belonging to soap.
Spumosity, Frothiness.
Stagnation, The pooling of running liquor.
Systole and *Diastole*, Contraction and Dilatation.
Susceptibility, Capacity of receiving impressions.
Specifie. To particularise.
Specifique, Proper.
Serosity, The watery part of the Blood or Humors.
Tone, The firmness of the parts as to their contracting and dilating.
Tenuity, Thinness.
Trach-artery, The Wind-pipe.
Vacillant. Tottering.
Viscuous, Glewy.
Ventricle, Stomack.
Venæsection, Blood-letting.

A VINDICATORY SCHEDULE;

CONTAINING

A Disquisition Theoretical, and *Practical*, of the *New*, but most Effectual Method of *Curing Continual Fevers*, *Invented*, &c.

SECT. I.

Clearing, that the infallible Principles of Law, Equity, *and* Reason, *and the necessary consequences thereof, applicable to the* Physician, *does both oblige and direct him to get light in this subject, and in the other means of his Improvement.*

IF the Profession, that seems most deservedly, to be intrusted with the *Standard* of *Justice*, whereby *Humane Actions* are *commensurable*, does give out, and determine, that to be a *quasi delict*, or *kind of Crime*, when a Judge, through unskilfulness, gives an unjust Sentence,

Equity and Law, makes the unskilfulness of Physicians, highly culpable.

A thô

thô thereby we only ſuffer in our Goods and that Damnage be alſo reparable, by a Reviſe, or the cognizance of an higher Tribunal: And further if *that Profeſſion*, does calculate the *Attrocity* of *Crimes*, according to the degree of hurt done, together with the the *kind of Negligence* occaſioning it, which if *Supine* and *Affected*, and in matters of *great moment*, and *truſt*, makes then ſo groſs an fault, that being equivalent to *fraud* or *dole*; and thus giving the eſſential thereof, it conſtitutes likewiſe a *a true Crime* :

May not truely then, the *unskilfulneſs* of *Phiſicians*, ariſing from *incapacity* or *negligence*; eſpecially, when *ſupine* and *pertinacious*, and that alſo under a *truſt* ſo great, either bringing, or permitting, (while it is in the power of Art to prevent it) the irrecoverable loſs of Life, juſtly carry the taint of a true, and no ſmall *Crime: Thô whiball ſuch, as rather for want of competent Judges, then for want of ſufficient and crying Guilt, is reſerved wholly to the laſt Tribunal.*

And it being alſo very ſure, that by how much the *danger and loſs*, from the unskiltul performance of Medicinal practice, *is greater*; and the difficulty of attaining

taining to skill therein, *is also more*, then in that of the Judge, or any other offices whatsomever; by so much it requires both greater *Judgement*, and *more Labour*, and *Industry* in the Undertakers; and that as well for their accomplishment therein, as for the particular discharge thereof: And indeed such as are rather suitable to the *Import* and *Difficulty* of the work, than to the *Capacity*, or *Ability* of the *Operator*. *It seems therefore, that the only Innocence capable to protect, from the Imputation, and Impeachment of this Crime, is commensurable in proportion to the vigour of the understanding, and activity of Industry, in prosecuting the Qualifications requisite, for the particular, and faithful discharge of this practice.*

Whence seem Trespassers here; all those, who not being above the ordinary gifts of Mind, nor endued with a *singular Acuteness*; althô altogether unapt; yet do ingire themselves into this Study, and Practice. That the saying of *Petrarch* de *Remede Utr. Fortun. Lib.* 1. *Dial.* 7. *That nothing is more odious to wisdom, then too great Acuteness*, may have its due use in Morals, and Conversation, where the observation, and stopping at every *Punctillio*, does rather

Acuteness requisite in *Physicians.*

amuſing retard, then enlightning direct: Yet the ſelf ſame *exactneſs*, and *penetrating*, which thô in *Moralls*, and perchance alſo in *Common Prudence*, is debaſed into *Preciſeneſs*, and *Caprice*, in Medicne, (as exalted to *Medical Prudence*) does really adopt the true *Sons of Art*; For in taking a Survey of the works of *Techy Nature*, in relation to become a Moderator therein, nothing being ſo *Minute*, and *Latent*, but (as capable of, ſo oft ſignal for influence,) deſerves likewayes *expiſcation* and *eventilation*: The practiſe therefore of Medicine requiring, as a large and full, ſo a diſtinct and acurate proſpect; to comprehend all things, that can inſtruct the *Phyſician*, in relation to the knowledge and cure of Diſeaſes, and many of theſe, by their Minuteneſs as well as Sublimity, eſcaping the leſs curious inquirie. *It ſeems then, its only the moſt exact dyveing, (as lyable to the feweſt of ſuch eſcapes) that can of right entitle, to any degree of eminency, and perhaps ſufficiencie in this Imploy*; Or at leaſt, nothing can propitiate for the defect of this, but the proportionable increaſe of Induſtry and Diligence, ſometimes equaling this acuteneſs in ſearch and diſcovery.

In the next place ſeem *culpable* here, theſe

§ 3. who albeit endued with pregnancie of Wit, yet do exerciſe the

the practise, by way of *parergon*, or *by-work*; and labour therein, following an other *imploy*, or *study*; perhaps also of that *perplexedness*, and *moment*, requiring likewise their whole endeavours: and thus serving two rigide Masters, and parting their labour betwixt them, they do most unworthily, apprehend themselves, to discharge sufficiently the *diligence* agreeable to *Medicine*, which, considering the *Intricacy* and *Import* thereof; can be satisfied with nothing less, than the continual, and vigorous *bending*, and *intension*, even of the most *acute* and *perspicacious* mind thereupon; & without notable and injurious impairment, can never suffer any such invasion of its right, or to be rival'd by considerable wast of time, bestowed either on *Occupation*, or *Diversion*, beside it self: *Excepting always, the care and concern due to the chief Interest of everlasting happiness, Properly, and Significantly, termed the general calling.*

And they being sequestrate from other Imployes, or Divertisements.

In the next degree come here censurable, any who althô appearing of competent enduements of mind; and further, exercise this Practise alone, yet (as the craving importance and intricacy of this

4. § Dilligence and Industry requisite.

Art

Art altogether requires) are so far from the due and close following, or by serious inquiry, from the careful anticipating, all the expedients of Improvement, that they shift and decline the opportunities; yea already drest improvements, laid to their hand: these indeed giving a semblance to have *slash* for their *ascendant*, and pertinacie for their *predominant*, come thereby so far short of the necessary and possible progress, that they are still Stationary; And while the *Art* it self is in *advance*, they may be said in a manner to be *retrograde*, in true and solide skill.

5. §. The causes of their negligence either the impunity there of here.

Now these being either more knowing persons, and consequently, *conscious of the fault* of their negligence, yet presumeing the altogether impunity thereof, they easily venture on the perpetration of any *crime*, escaping the *tribunal of Men*; or being less knowing, and so less conscious and wicked; then labouring under fundamental errours and mistakes; no wonder they make only such a superstructure thereon, as is suitable to the Laws of *incuriousness* and *ease*.

6. § Orignorance of the strict-

For they being altogether in the dark, as to the Nature of that *Obligation*, they put upon the

themselves, by undertakeing a Profession, that does certainly obliege them, to such exact discharge, as makes the least errors, both of *Commission*, & *Neglect*, especially when (as often they are) of dangerous, and *Fatal Purport*; to be placeable to the undertakers acount: If by any qualification from *Capacity*, *Diligence*, & *Scrutiny*, these might have been evited, no wonder then (since they have no distinct, and clear *Impressions* of this) they should have likewayes no Stimulating *Impressions* from this.

nes of the Obligation lying on them.

Now the strictnes of the Obligation, lying upon the *Physicians*, in relation to their *diligence*, is not only deduceable from the nature of *trust* in general, which *Lawyers* (clearly giving out as obliging to the *diligence* of *prudent men*,) make accountable for the lightest *errours* and *escapes*: But also from the nature of these *trusts*, that being the subject matter of a *profession*, seem therefore to imply as a supervenient, so a stricter tye, than simple *trusts* do; the very setting up to a *profession*, importing no les, then as the undertakers asserting his Capacity, so a kind of invitation, to be trusted therein:

7. § The Nature and Extent of it cleared from Law and Equity.

and

and this certainly putting him under an accountablenels for meer neglect, of any sort; seems to put him likewayes under a stricter *obligation*, to accomplishment, then these *trusts* do others, which being the subject of no *profession*, are indifferently committed unto, and administred by any: for the *Mandator* choicing a person that by no character of *profession*, gives out himself qualified for the *trust*, he can expect or exact no more from him, but suitable to the *Skill* and *Qualifications* he really has: Now *Medicine*, beside what is common to it, with other both *trusts*, and *professions* implyes yet a stricter Tye: for almost in all other imployments, the Qualifications being so far discernable, that importing the Imployers acquiescence, from his choice, in that measure of skill, he finds or might find, him he trusts, endued with; he cannot justly charge him with the *escapes*, especially of *Skill*, he saw or might easily perceive him lyable to: but in the Profession of *Medicine*, the Qualifications lying so deep, that it is hard to perceive, whether they be there, or not; this makes it difficult likewayes, to make a solid election, where to place that *Trust*: Here therefore being *Trust*, upon *Trust*. *Viz.* Not only

only the *Patients* truſting himſelf, to the *Phiſitians Skill*; but alſo the truſting the ſufficiency of that *Skill*, to the *Phiſician* himſelf: This muſt therefore neceſſarly, put the *Phiſitian* likewayes, under the double obligation, as well to ſufficient capacity in his Employ, as the faithful diſcharge thereof: For could the *Patient* clearly deſcern, where the moſt eminent qualities, deſerving ſuch a *Truſt*, were lodged; he would only choice to lodge there likewiſe, the *Truſt* of the great concern of his *Health*, and it may be *Life* alſo. Now if ſimple *Truſt*, oblige to ſuch *exactneſs*, as makes the leaſt Errors chargeable, what accuracy does this *agregation* of *Truſt*, (as being the ſubject both of a *Profeſſion*, and of one ſo *momentuous*, and *intricat*, that it includes a double truſt) oblige unto.

§. 8. The eſpcapes of meer *Neglect* thô (rather for want of the *Phiſicians* ſufficient *Senſe*, than through his *Innocence*) giving no check; yet theſe being often equally, *fatal* here, with errors of *Commiſſion*, ſhould not this undoubtedly therefore, prompt him to ſuch an *Indefatigable*, *Vigorous*, and *Univerſal Seareh*, as may juſtly give him, the infallible *Aſſurances*, that even

even these *escapes*, (under the qualification of *might*, *and should have helped*,) shall never rise in judgement against him, it being a very sure, thô sad and frequently incurred *Certification*, that in so far, as the *Phisician* fails, in this dilligence, in the proportion to the *consequence* of the *Escapes*, arising from the neglect thereof; he is undoubtedly rendered guilty, even of a *Criminal* thô secret *deceit* in his *trust*.

§. 9. The *Phisician* in his Practice, being to march in an extraordinary narrow path, environed on the one hand, with the *dangers* of *escape*, and *neglect*; and on the other hand, with the *perills* of *positive* and *plain hurting*: So then he often studying too *cautiously*, or rather *ignorantly*; to avoid hurting, may be miserably frighted into, the *timorous neglect* of the *eradicating*, and only *effectual Remedies*, and contrary-wayes, by serious Incumbency on these, he may rub on the other extream of hurting: There seems therefore to be nothing, but the sure *evidences*, and plain *instructions*, of this assiduous, and serious Application, that can obtain to him a full and positive exoneration, bearing, that he has altogether freed both these, (indeed very close lying together) *extrems*: Or that any *de-*

elenſion

clenſion, to either ſide; (whoſe *frequency* is as *certain*, as it ſelf is *ſecret*) is ſo much *venial*, that being unavoidable, and therefore of the nature of *caſual*, he can no-wayes be made acountable for it, however, that the difficulty to avoid hurting the *Patient*, is more than is commonly apprehended, will be plain, by conſidering that theſe Remedies that to a mean Tincture of Skill, appear *innocent*, (and this thô a *ſilly one*, is the beſt Commendation many can, and do give, their *Remedies* and *Methods*) yet theſe *innocent* Remedies, may by a greater degree of Knowledge, diſcovering much enveaglement of croſſing circumſtances in the Diſeaſe, be diſcryed really dangerous; and farther, another Remedy, that this degree of *Knowledge*, may in place of theſe acquieſe in, by an higher pitch of Skill, (*armed* with more *perſpicacity*) may juſtly be repudiat: And ſo through all the degrees, unto the fartheſt attainable pitch of *humane Art*, (which unto a degree of farther Skill may alſo yet appear ſhort) the *greater* may ſtill ſee more, than the *leſſer*: So it is plain, that as no attainable proportion of knowledge can abſolutely ſecure the *Artiſt* even from real hurting, ſo its only the outmoſt attainable proportion, can atone for the guilt of it.

And

And on the other hand, if we turn to the consideration of *neglect*; we will find it may ly in a point not a whit less *Nice*, and *Important:* As when a *Patient* is (notwithstanding of all the *Phisitians* endeavours) lost; yet if there could have been any Remedie in Nature or Art, which serious application, consideration, or other diligence, might have made known to the *Phisitian*; and by which he might have saved his *Patient*, then and in this case, *of whom*, and *of what dyes the Patient*, I pray you?

In how nice a point neglect may ly and the coming under the possibility thereof, alarms sufficiently to inquiry.

Now this bare possibility of *Neglect*, albeit overly considered, and under the Notion of a *Peradventure* only; it gives small impression on the mind; yet the concernment it carries to the *saving* or *loosing* the *Life* of Man, being closely laid home, cannot but raise such an *anxiety* in any thinking or tender *Phisitian*, (especially under the clamorous Rumours, seeming to impeach him of so important and grosse negligence) as nothing can calm, but a *serious*, *impartial*, and *thorow Inquiry*, at *experience*. And this the rather he may be prompted to, because such experience lying open to his view, as the result of other Mens Industry, does

does not oblige him to try by himself what he reckons *dangerous* and *new experiments*; and then it is not doubted, but the issue of this will (putting off all ambiguity) resolve this *peradventure* into a *certainty*: Unless it happen as may reasonably be feared, that such a *restiness*, as needs to be so hard spurred on to the duty of *Inquiry*, will also in trifling the *Survey* of *Experience*, altogether defeat the hopes of true *discovery*: But at length as there seems to be nothing that can approve these Remedies, given out by the sure experience of others to be of all yet known the *most effectual*; but as *palpable evidences* of their *ineffectualness*, built on the like *exact experience*; so it is hoped none will let their *logick* out go their *honesty* so far, as to bring any such agrument against them. And withal it would be noticed, (as it frequently falls out in other matters) that althô such *mistakes* as (in these that are willing to be informed by evidence) are easily curable; yet the longer they be *wilfully* and *tenaciously* maintained against *light*; (beside the *execution* and *havock* they in the mean time do make) they do thereby become the more *confirmed* and *habitual*; and make the *delivery* therefrom, if ever, alwayes with more *difficulty*, *torture*, and *remorse*; than otherwayes it would be.

Now

Now from all these, as it is certain that *palpable inconsideration*, *unconcernedness*, and *negligence*; may equipe out plain *incurious ignorance*, and *inconvinceable pertinacy* under the colours of *discreet* and *warry caution*; so the conclusion of the whole terminates in this, that the only *directive light* the understanding is capable of, doth arise from the sparkles made by the *collision*, and smart stroaks of this *brisk scrutiny*; and also that the alone *solide peace* the mind is calmed by, flowes from the *Reflection* and *Conscience* of this *ingenuous labour* and *inquiry* throughly and sincerely performed.

SECT. II.

Containing a Model of the Phisicians *diligence by which it will be plain, that Industry alone furnishes the Motives, Opportunities, and Means of Improvement.*

FOr further manifesting of all this, it seems necessary to give a *scheme* & draw a *Land-skip* of this *diligence*; which being plainly done will serve as a *Directive* to the *Physician* in this *dangerous* & *difficult road*: for it being thus in whole subjected to his view, will manifest the *proportion symmetry*, and *direct tendency* of all the parts of this *diligence* to the great end of his *Improvement*, and to the Discharge

charge of these *strict Tyes* lying upon him by his *trust* and *profession*. But such a *Figure* being only obvious and taking to the eye of a *perspicacious mind*, any other never being able to discern Order or Use herein, (because rather repleniſhed with prejudices against *Industry*, than ſuſceptible of any *perſwaſive Impreſſions* of its conduceableneſs to true *knowledge* and *skill*) will let it paſs both in *portraiture* and in the *life* altogether uncopied and unregarded.

The general diligence of his accomplishment.

In proſecution then of this, it comes to be remarked, that tho the *truſt* of the *Phyſitian*, as being alwayes verſant in particulars, may ſeem likewayes acquitted by a *diligence* and *diſcharge* alſo particular; yet this particular in its Qualification and due Exercise, altogether depending upon and being the product of a *diligence* more *general*, and of *accompliſhment*; the delineating then of this ſeems firſt to be required.

This *diligence* then of accompliſhment equally reſpecting all the Subjects of *Medicinal practice* ſeems to conſiſt in acquiring ſuch a *ſtock* of *Learning* and *Knowledge*, as may ſerve for particular exerciſe and diſcharge; and this *Knowledge* by the acceſſion of all *New Practical diſcoveries* is ſtill to be on the *improving hand*, for when *Advance* is poſſible, (it being

ing alwayes neceſſary;) this *diligence* cannot endure any meaſure of Skill to be *ſtationary*: And moreover this *knowledge* only conſiſts in the *Imprinting* the mind with ſuch *ſolid* and *genuine notions* of the *operations* of *Nature*, in the *production*, *various faecing*, and *cure* of *diſeaſes*; as will direct in choicing and following the moſt effectual meaſures alſo to their *cure by Art*; and theſe *directive impreſſions* may be moſt compleately & effectually gotten, (beſide what the *Phyſicians* own particular and ſerious *contemplation* affords him) by the diligent *queſt* of, exact *ſearch* into, and profound *meditation* upon (for *perfunctorious triffling* and *ſcruffing* is never more unſeaſonable then here) the *works* and *writings* of ſuch *Authors*, who having given the trueſt *Hiſtories* of *Diſeaſes*, and therein unraveling *Natures Intrigues* have proven thereby the beſt *Interpreters* of her *miſteries*, and of ſuch as have deſcended into the fartheſt and loweſt *ſpecifications of diſeaſes*, by bringing moſt light to the knowledge thereof, have alſo brought moſt fruit of *practical* and *methodical Cure*: And further of ſuch as by the native clearneſs and ſuccinctneſs of their method of treating theſe things, illuſtrate the mind with a more *clear* and *durable impreſſion* thereof: and moreover there being ſeveral notable practicable

ctical Observations incidently occurring in *Authors*, who deliver the same in no *systematical method of Diseases*, and also to be met with in common *Medical conversation*; Now these to serve their proper *expedients*, being difficult to be fallen on, and more difficult to be exactly remembred; by means of this *general diligence* deserve (being picked out) to be orderly classed up; beside, the light that the samen so disposed (increasing the stock of Knowledge) do bring to *Theory*, that (being thus in order also more easily run over) they may be more expeditely brought forth upon their proper and particular *Exigencies* of future practice.

§ 2. The benefit of this Diligence.

And indeed this *Concupiscence* in the *Phisician*, thus to appropriate the *Labours* of others, to pluck the better *Fruits* of their *Lives*, to drain the *sweet*, and extract the *quintessence* of their *Works*; is so far from any injury unto them, that with the grateful acknowledgement of their *Merits* and *Praise*, it is the most due retribution of *Justice*; and there seems nothing left us to palliat our ingratitude if we neglect this, but with a Criminal breach of our *Trust*, *Cruelty* to Mankind, and *Unkindness* to our

ſelves: That *inquiry* and *ſearch* being the only appoſite mean of our *improvement*, and including ſo comprehenſive a Benefit, as to be the only proper *Expedient*, in proportion to our Diligence herein to lengthen the *ſhort Life*, (our compiling together the acquiſition of many Lifes, at leaſt compenſing the diſadvantage of the ſhortneſs thereof) and alſo after this manner overcoming the length and difficulties of this *long Art*, to ſhorten the length thereof by our ſpeedy diſciplinating therein. And further the Nouriſhment and Vigour of the Mind, being thus alſo promov'd, this *Labour* and *Exerciſe* ſtands in the ſame relation of *Utility* and *Neceſſity* thereunto, as the natural *Appetite*, *Aſſumption*, and *Digeſtion* of *Aliement* does to the Body; for without this Food of the Mind *taken* in and *digeſted*; thô under the viſard of a *polite Perſonal*, prudence, ſome perſonating Skill and Learning, are by undiſcerning Perſons eſteemed for well *furniſhed*, *robuſt*, and *quadrate Champions* in *Medicine*, and ſo do eaſily faſcinat the *Mobile*, in moſt of things (but moſt of all in this abſtruſe Art) graſping at ſhaddows for ſubſtances; yet to the diſcerning how *ſqualide*, *languiſhing*, and *truely enervate* a *Figure* do theſe make.

The

The other kind of Diligence required in the *Phisician*, because verſant about particular & individual caſes called particular (and alſo in its due Qualification, depending upon the former accurately diſcharged: and farther by its exact exerciſe reciprocally advancing the general ſtock of knowledge by experience for *fabricando fabri ſimus*) does conſiſt firſt in that outward care & attendance due by the *Phyſician*; but the neglect of this reflecting too ſure, ſenſible, & pungent inconveniencies on the *Phyſician* himſelf, makes for the moſt part, upon that account, the ſenſible Diligence to be ſufficiently intent and bended, unleſs ſometimes when *Age* and *Prudence*, pretending *Value*, & thereby *Right*, have procured a *patent* of *Reputation* from *Opinion*, (which rarely conſults Merit) to raiſe the price thereof, then with Advantage and Safety it may, and for keeping of its Honour it muſt, become more remiſs, and be made a rarity of: Thô *Medicine* gives no *Monopoliſing Prehemenencies* by vulgar Opinion; and this *Diligence* gives neither Diſpenſation nor Priviledge, but ſuitable to the neceſſity of the preſent exigency. And next, but withal, more eſpecially this particular Diligence does conſiſt, in the *ſecret*, *inward*, and

The particular Diligence begets experience.

and *conscientious Industry*, making an *exact Expiscation* of all concurring outward and visible *causes*, and other circumstances, with the accurate observation of all the *Phænomena* and narrow consideration likewise, of the *disposition of the Body*; by which Light may be brought to, or a genuin *idea* given of, the *continent cause*, or *essence* of the Disease in hand; This Cause alwayes lying invisible and secretly couched, in the *disposition of the Body*, betwixt these *two visibles* of *outward causes* and *Phænomena*. And this *Diligence* here also requires the *consigning of these to Writing*; that with more leisure and effect (all being duely pondered) there may be farther discovered, what *effects* the given causes are apt to produce in the Body; for by the Contemplation of their *Nature*, may be known what will be the consequence of such *seditious Disturbers* their invading the *œconomie*; where comes likewise to be considered the *disposition of the Body*, and its *susceptibility* either of impressions altogether different from, or of more grave effects, then these ordinary resulting from such causes use to be; this commonly resolving in an *Idiosyncrasia* or *Propriety* of temperament: and thus also the *Physician*, may consider fully the *Phænomena*, what

News

News and Report they do bring from the inward troubled ſtate of the *OEconomie*; where it is alſo obſervable, thô theſe *Phænomena* being often in diſguiſe, impoſe upon, and deceive the Unexpert; yet being ſoon unviſarded by the ſagacious Artiſt, they may be made to tell, (without diſſimulation) the truth: So by making a judicious *calcule* of the *given cauſes*, *diſpoſition* of the Body, and *appearances*; there may be in moſt caſes more then a probable *computation* alſo be made, and a true *Idea* thereby had, wherein the diſcompoſure of the *OEconomy* doth immediatly conſiſt: and for reſtoring of it, ſolid and ſure *Meaſures* adjuſted and taken, and that either by means of the *Phiſicians* proper, but ſolidly founded *experience*, or that of the more eminent Practitioners likewiſe being conſulted. And this method of conſigning the *Patients* caſe to write, and for the ſame uſe and end, was the cuſtom and practice of that famous Practitioner *Theodor: D. Mayerne* of whom *Harres* in his *Pharmocologia anti Empyrica*, relates, That *in Chronical caſes, eſpecially ſuch as would permit deliberation, he uſed not to ſhake his Conſultation out of his Sleive, but comitted all the circumſtances and* Phœnomena *of the diſeaſe to his Diaries, about which he*

consulted his dumb Doctors, & by summing up all their Councils, having gotten a true Idea *of the* Disease, *he did thence take his indications.*

§. 4. Moreover this exact *consignation* of the *Patients* case to *writing*, being equally conduceable to the *Physician*, seems to be of far more necessity to him (by reason of the far greater *import* and *difficulty* of his *Practice*) than that usual exactness in *Lawyers*, their taking up the state of their *Clients* causes likewise in *writing*, is unto them; For the damnages of their *negligence* thô more perceiveable, are yet more tollerable and reparable then the same in *Medicine*; where it is scarce permitted to *fault twice*, and over the Brink the *dearest Life* is irrecoverably precipitated.

§. 5. An journal of the *Physicians* practice requisite. This particular *industry* doth farther require the inserting also into a *journal* as a proper conservatory thereof, the whole *history* of the *Physicians* daily practice) therein being particularly comprehended the Medicines given to each *Patient*, with the effects thereof: For by such an exact *History*; he will be surely directed, how to take his *measures*, and make more safe and ready *hitts*, in their cases, who having been formerly his *Patient*,

Patients, ſtand there recorded as the ſubjects of any remarkable circumſtances, or *ſeene* of *medical Practice*: There being truely few but ſomething various and ſingular in their Temper, doth diſcover it ſelf; which concerning their *ſecurity* and *ſafety*, concern alſo the *Phyſicians diligence* and *fidelity*, to be carefully put in record, and without this record as a *compaſs* to ſteer by, he will be in hazard either to commit ſome error of *precipitancy*, or to loſe time (which the quick current of ſome caſes may render extraordinary value able & precious) in reiterating thoſe *irkſome* & *Nauſeous* (thô *bovering Trials*) to familiarize their nature, temper, & conſtitution, that at firſt his caution did neceſſarly put him upon. And ſuch *Phyſicians* who neglecting this, (eſpecially under the throng of many *Patients*, or conſiderable intervention of time) do not more carefully take up & preſerve ſuch Lineaments, of their *Patients Conſtitutions*, as their occaſions of medicating them does afford; ſave what alone their Memory can give them thereof; ſince thereby they ſeem altogether to tranſgreſs & violate the only condition *inferring the benefit* of their being the *ordinary*, deſerve they not likewiſe to forfeit that endearing relation and the priviledges thereof; which like Love

thô

thô it ſhould cover many of the *Phyſicians* Infirmities; yet ſcarce any of ſuch important and groſs *Negligence*, where for ſo ſmall and eaſie *coaſt*, they forego ſo great a Benefit to their Patients.

And moreover, this *Journal* ſerving the Phyſician for a *Map* of the various uniformity of the operations of *Nature*, and theſe even by his own *Survey* drawn from the *Life*; the ſerious and frequent view thereof, (by giving him more ſolid, full, and bright *Ideas* of Diſeaſes and their Cures only begets that ſo much talked of (but rarely found) *experimental Knowledge*, which in proportion to its *ſolidity* will ſurely direct the ſteady ſtirring of his Courſe in after practice: And that the ſolid *experience* in *Medicine* (thô after never ſo much practice) can nowayes ſo fully and exactly be produced as by ſuch an exact *Hiſtoriography*, is altogether clear from the *multiplicite*, *complexity*, *inveiglement*, and *variety* medical Caiſes are alwayes circumſtantiat with, which undoubtedly therefore require to be moſt exactly and fully *collected*, *repreſented*, and *ſpecified*, to imprint and conſerve in the Mind all theſe genuine *Ideas*, that are neceſſary to bottom all theſe *reflexive*, *comparative*, and *diſcurſive* Acts of the Judgement, requiſite

to

to *compute*, *conclude*, and *enter* in, true and consequential *experience*. Moreover, this diligence of compiling an exact *History* of his Practice, (wherein that of others faithfully communicate to him, may also be comprehended) is clearly resembled in its method, and also in its utility confirmed by that diligent care of *Lawyers*, when they do collect and digest into certain classes and heads, all *Decisions* and *Practices* of particular Cases: These indeed being seriously considered and pondered; by *imbrightning*, *unravilling*, & *specifying* their *notions* of *Law*, does give them the truest Impressions of *Right*, which (denoting also experience in Law) must undoubtedly enable them by more certain *Hitts*, to make the most solid application of these legittimate *Notions* to particular occasions.

§ 6. Whence is the vanity of the many Observations in Medicine, diseases not being sufficiently unmasked.

But it may perhaps, and not unreasonably, be objected, that the palpable multitude and vanity of such *Observations* in *Medicine*, wherewith the World is pestered, would therefore seem to discharge any farther progress in that road: But if it be narrowly canvassed, whence it is that so few of those Observations being brought

brought again to be reacted on the Stage, of Practice, does either answer the Authors Brages, or our expectation founded thereon: Not to call in question the Authors Ingenuity, the true reason of this will be rather found to be their want of sufficient Skill, to have set down the Diseases in these Observations, both sufficiently *unmasqued*, and *specified:* This surely has in the re-experimenting these *Observations*, often evacuate the Cure: For first, community of *Symptomes* and *Phœnomena* in Diseases in these *Observations*, alwayes has been found to class them under one common *Type*; while many times the Diseases of one *Type*, really disguise themselves under the *Phœnomena* of another *Type*, so, thus the *diagnostick* and Disease being mistaken, the Cure falls to be so in consequence; and this as it is mentioned and observed, so it is exemplified by our eminent Author, who has indeed been the first that suitable to the true genious thereof, has shewed the *Proteus* like nature and fashion of *Histerique* affects, that disguise themselves under the appearances and symptomes of many other Diseases, as under these of these of the *Colliek*, *Gravel*, &c. and abundance of others and which being plyed with the Remedies appro-

appropriate for these Diseases are indeed more exasperat than lenified, but soon yeild to an *Antihisterick method.*

§. 7. Next Diseases not being sufficiently specified.

And next many Diseases which in these *observations* go under one *general type* as a *species*, & they made only *numerically* distinct, are really rather distinct *species* under that *Type* as a *Genus*; and may differ as much among themselves, as one *Type* does from another: No wonder then that Diseases and their Remedies being set down in *Observations*, with little regard to this particular *specification*, if the proper Remedie of one *species* (often being mistaken) prove ineffectual to cure another *species*: And this important and farther specification is first also observed and instanced by the same *Author*, in the *Small Pox*, which all antiquity had without distinction of the two *species* of *distinct* and *confluent* confusedly treated: For beside the different *Therapeia* evincing this distinction and specification, that notable Symptome of a *diarhœa* so noxious in the distinct, & nothing so, but rather beneficial, in the *confluent*, with sundry other differences betwixt them, does more fully make this appear.

So that to do any thing effectually in way

way of observation, Diseases require both to be most curiously and carefully *unmasked*, and more particularly and farther *specified*, and the cures which before were in *gross bulk* and *confusion*, ought specially to be sorted by *detail*: *viz.* To every real Disease and proper Species, its own true genuine and particular Cure.

The benefit and necessity of this diligence.

The serious exercise of this double *Diligence*, does not only comprehended the Improvement of younger *Phisicians*, but more eminently, pointing thereat, doth recommend the charge of the *Elder*, yea *Eldest* Ones: These being altogether capable by larger and firmer steps, to make both surer and farther advance in this road, the only way leading to any pitch of Skill, in this inexhaustable Art.

And Moreover while *Natures fecundity* (especially impregnat by Mens *Exorbitances* and accidental *Contingencies*) does alarm us with continual Inundations of *complicat*, *disguised*, and *obstinat* Effects; should not then Humane *Wit* and *Sagacity*, impregnat also by *Labour*, *Search*, and *Industry*, prove as broody to discover and obviat both their violent and subtile Assaults.

And

And surely herein as in all the forgoing means of our Improvement, the recent Writers seem to have most successfully laboured, it being those that alone having had the great advantage to be set on their Predecessors Shoulders, must undoubtedly therefore have a larger and better prospect of things; althô withal some of them by reason of that prospect, found it altogether necessary for making true *survey* and more happy *discoveries* in some Diseases, to take up altogether better *ground*, and new *stations*, and have in consequence laid down more solid and sure measures of practise; and the advantage of others of them being in that they themselves have been Contemporary with the *discovery* and *Specification* of the true Cure of some Diseases: while some others qualifie their advantages and fortunes yet higher, by having had the sagacity to be the Discoverers of these themselves: Now every one of these circumstances singlely, being ground sufficient to recommend recent Writters, (each whereof from these Advantages has made some peculiar improvement) how much then must the Com-

Why recent Writters afford the best means of Improvement.

The great merit of *Sydenham.*

Combination of them all, in the person of the Noble and Famous D. *Sydenham*, (who seems indeed to have made the same proportion of Improvement with these his Advantages, as the suffrage of several learned *Physicians* hereafter to be mentioned bears witness) recommend and endear these his Labours to all that are mainly either concerned for the benefit of Mankind, or curious of the Improvement of *Medicine*: But these indeed are too vast capacious and laborious designs, to be hampered within (and perhapes also interferring with) the narrow, petty, and homeward Projects, the far greatest part are only capable of.

§. 9. The evil consequences of Sloath.

From all which it will be plain, that as on the one hand these that travel in the way of *Diligence*, (catching the *Opportunities*, spurred on by the *Motives*, and guided by the *Means*, and thus being in the straight road) will certainly both land in *Accomplishment*, and likewise necessarly take in their way thereto all profitable *Discoveries*: So on the other hand, these that slight *Diligence*, (baulking the *Opportunities*, sitting the *Motives*, evacuating the *Means*, and being therefore clearly out of the way to accomplishment,) No wonder

der, that (never meeting therewith) they be neither capable nor ſenſible of excellent *Improvements*.

And farther, as theſe that earneſtly contend in this way of *Diligence*, by tracing ſure and clear ſteps, can only get theſe true and genuine *Impreſſions* of things, that will enable them to make the ſolideſt *Decretory Judgement* concerning the validity of any Improvement, and whereupon they may found true *Experience*: So theſe that linger & deviat, are thereby prone to have *their judgement* (which reſſles muſt ſtill be forming ſome *Ideas*, thô *Chimerical ones*) ſo depraved & wreſted, by the *alay* of vain *Hypotheſes*, and *Prejudices* of *empty Theory*; that they neceſſarly do carreſs and ſubſtitute a *partial*, *unexact*, and *ſuppoſitious*, in place of *true Experience*: Not much unlike a Garden, that without diligent Culture, becoming naturally all overſpread with uſeleſs and noxious Weeds, yeilds neither Pleaſure nor Profit. And thus it ſeems may be unridl'd that *Paradox*, why ſome *Phyſicians* notwithſtanding of all the Light, Certainty, and Profit therein, may yet remain unproſalyted to excellent Methods: And alſo, that they may (at a blind Adventure, levelling at Innovations) be really found to hitt and beat down excellent Improvements.

SECT. III.

Shewing that too great throng of Practice, hinders both Improvement, and faithful Discharge of the Physicians *Imployment; And that Reputation the occasion of that hindrance is rather the effect of Artifice, and popular Errors then of true Industry.*

AS a necessary consequence of all has been said comes the Censure of such *Physicians*, who (because thereby also straying from the true method and means of Improvement) altho endued with understanding, and nowayes sloathful; yet undertake at once, the Cure and Care of more *Patients* then their Ability; yea, that of the most compleat Artist, according to the due steps and measures can thoroughly expedite: And thus that bottom that would otherwayes carry through, and land safely a convenient number may (being impestered and thronged) be so overloaded, as to lose or hazard all. Every Pasture may be overlaid with too many Cattle; and every Field may be exhausted by two much Corn growing thereon; every Cart or Ship may be overburdened: Yea, every particular Artificer whose work when it is incompleat all perceive to be so; may

may also undertake more then he can dispatch; and no hurt comes thereby to any but delay: But only the *Physician* and *Lawyer* (and sometimes by a plurality or largeness of the Benifice, also the *Clergy-men*) setting down no bounds of their capacity and undertaking; but conform to the limits of their Trust; profess such a kind of transcendent ability as is like a little Omnipotency: Because forsooth for the most part no evidence can be had, but their Faith; that the Trust is honestly discharged. And thô it be hard to set down positive bounds in this matter, their capacity being the true measure of every Ones undertaking; and althô the Sagacity of some be improveable to that hight of dexterity, that they can make surer hitts on the wing, then others do poring from their rests; yet this seems to be far from warranding by too much undertaking, to lay a necessity on themselves to be alwayes extemporaneous in their Resolutions, and to mar the evident and possible advantage of such Sagacity, that rather pointing thereat, it does encourage, yea oblige, to the fulfilling the great expectation, that the uttermost Improvement of that Acuteness by sufficient deliberation does really promise.

Whosoever then is involved in more Business and Practice, then will permit him to discharge the *Diligence* due to every Case and *Patient*, and that both in the general and particular course, as he thus baulks the means of his accomplishment, and never meets with occasions of Improvement, so he necessarly bungles and scruits his work, and deceives his Trust: and seems to have reputation rather the conquest of his Artifice then merit: And such (thô hurried unto precipitancy by a pretended necessity, and straitness of time, but really by avarice) shall undoubtedly be charged with the consequences of their Errors (tho covered with the earth) no less then the rest of the unqualified Labourers in Medicine.

The succes of Artifice and personal Prudence hinders Improvement.

So then in the last and most eminent degree seem Criminal all such, who from Incapacity or Negligence, wanting Skill, do yet (as a *Succedaneum* thereof) succesfully bestow all their Wit, Industry, and Care, in the Improvement and Artifice of *Personal Prudence*, rather than *Medical Prudence*; in laying down measures to acquire Fame and Reputation, rather then by true Knowledge or

or Merit to deserve them: all that such commonly find proper to aspire unto in *Medicine*, is first, a great *Busle* of *external care*, & a most obsequious, and delectable Compliance (for if their Skill be not very sufficient, they give it both cheerfully and also in good measure) unless when the adult Grandour of meer Reputation is improven to that degree by *Artifice* also, to enfranchise from such truckling; and then any thing looking that way, becomes so Meritorious, that it goes on the borders of Supererogation and Munificence: And the next Artifice such follow, is to be Masters and accurate Displayers of some plausible and common thô false *Scheme* of *Theorie*, exactly calculate for the *Meridian* of vulgar Capacity and Curiosity: Now this is enough to shew it quite *Antipods* to Truth and Nature it self, common Capacity being never able to reach the Mysteries of Nature, nor depths of the Medical Art: To which *Theorie* by a dexterity sufficient to subdue popular Rudity, they make all the *Phœnomena* in Diseases and the Method of Cure exactly to stoup; and thus gratifying vulgar Curiosity, they amuse easie credulity into a profound veneration of their Learning and Skill; and that indeed by a learned and

flouriſhing diſcourſe, which unto common people *clinks* as good articulate and clear *ſenſe*, as the Bell does to the Fool.

Now theſe being only garniſhed with the outſide, and wanting the Soul and Life of a *Phyſician*, ſeem much to reſemble the like in Religion going under the Name of *Hypocrites*, for as they under the *maſque* thereof, ſimulating true Piety, and eſcaping all Humane eyes, are only unvailed to the *Searcher of Hearts*; even ſo does Medicine nouriſh the like *ſpurious brood*, cloſe wrapt up in the gliſtering Vail of empty appearance, dazling the eyes of ſuch as ſee no more than Skin deep, and only diſcoverable by the Sons of *Apollo*: Neither is Piety it ſelf, or at leaſt the profeſſion thereof, eſteemed ſo ſacred by ſome as to be exeemed from being a proper expedient of this *Artifice*, the vulgar having ſo great an eſteem of a *Phyſician* with probity; under the Banner therefore of Religion, the ſhorteſt and eaſieſt cut to eſteem & Reputation in this profeſſion ſeems to ly: But Religion can indeed give no more Improvement in this then any other Art, where it may happily for Conſcience ſake quicken Induſtry, and better the Heart; but little the Head: Yea, the only ſpurr that ſtimulats to bear

out

out against the *tedium* of laborious Scrutiny, seems to ly in the perspicacious glances of the mind clearly discerning the utility, yea and necessity of labour and diligence; for indeed *grosser Heads*, thô with honest *Hearts*; easily closing with every thing, find neither the pungency of need nor profit, to subject their received sentiments to the *Touch stone* of accurate examination.

And moreover, all these Artifices and many more most commonly and successfully being exercised by the weaker sort of *Physicians*, who are also themselves weak Men, and even over the weaker sort of People, such as Women, and even the weakest of these also, do owe their success to this, that the *Physicians* Judgement and Capacity, being much of a size with theirs, breeds first Simpathy and Concord, next brings forth Affection, and at last, trains them up to a firm adherence to the *Physician:* And this thô a less glorious, is no ungainful Conquest: For these being thus gained to his side, by reason of their multitude and noise, together with their ordinary priviledges of Importunity and Opportunity, with their frequent usurpations of Impertinency, prove no unsuccesful nor contemptible Trumpets of his Reputation.

But on the other hand, this unskilfulneſs in ingenious or good Men, when under the Vail of any *Artifice*, doth alſo catch the wary and prudent in a more latent, and conſequently more dangerous hazard in their choole of a *Phyſician*, becauſe judicious Perſons by a ſhort and eaſie reaſoning are able to eſtabliſh ſound Concluſions againſt weaker Men exerciſing this *Practice*, but to draw juſt conſequences againſt theſe of more parts, the Bowels of Art muſt neceſſarly be ſearched into, which by way of *By work* to do, is above the moſt profound Judgements, eſpecially under the diverſion of other Occupations.

The precipitant Judgment of the vulgar and their preconceited opinion bin der improvment and is fatal to people, thô it be the baſis of Reputation.

And as in moſt other Crimes beſide the principal Actors, there are oftentimes alſo Complices, who according to the degree of their acceſſion, are likewiſe culpable, and make the Principal in ſome maner *excuſable*; how much then think you does contribute to foment & cheriſh, and conſequently to extenuate this unskilfulneſs in *Phyſicians*, the precipitant headleſs and ignorant Judgment of People frequently Interpoſed concerning *Phyſicians* and their Practiſe, with

the

the fruits of whose Unskilfulness upon this account they themselves not undeservedly seeme to be chastised: For *Opinion* being the *Monarch*, bearing greatest sway in the minds of Men, has his Dominion upheld for most part by appearances, mistakes and errors, these being the most Plausible wares and Passable Coyne in that state; conforme therefore to the same measures, the Honors and Dignities of that Court same, and Popular applause, and the apanages thereof, are entailed on shadows rather then the substances of true merit: And this *Empire* likewise extending it self over the *Province* of *Medicine*, thorow the misrepresentations brought therefrom to that court, in depressing true merit to exalt the umbrage thereof, exercises most of its *Tyrrany* and arbitrary *Government* there: For vulgar capacity the only Inteligencer comeing with news from Medicine, never being able to descend into the depthes and unfold the misteries of Medical prudence, is in stead thereof taken and deceived with the Prudence of the *Physician* only commensurable to that capacity, and for *Juno* Imbracing the Cloud brings very false reports of desert from the Medical state: thus the way to Skill and Reputation being far laid

laid asunder, layes also on the *Physician* an invincible necessity, suteable to the Laws of another great Monarch of this world *interest*, to improve personal Prudence glistering Ware in the Court of Opinion, and thereby also is looled, or slackned his Allegiance to Medicine, by his being put under the constraint to neglect the study and exercise of Medical prudence, because it is circumstantiate with tedious uselesness here, and perhaps noxious by its frequent interfeiring with the profitable *Art* and use of Personal *Prudence.*

Mankind also being for the most part rather delighted with the Freedom and Liberty of ease, (especially if without loss and not Impeaching on Interest) then with the Yoak of honest labour, and bending of serious Industry, and there being in all human affaires no case so much favoring, yea Inviteing, yea Tempting to sloath, as Medicinal Practice is, (the fruits and effects of all other Arts and Labours carrying a more obvious impress of Industry and Skill then this Practice does, where it is truely difficult to marke the subtile, and fine Steps, by which Art sets the cause a going to produce the effect; or to observe the secret and hidden Concurse it has to Facilitate

litate it, this for the most part both makes *Spectators* ignorant, whither *Art*, *Nature*, or *chance* produces the *effect*, & cools the *Physicians industry*. And further, such being the *Apish humor* of *popular ignorance*, that inimitation of its direct contrary *knowledge*, it must still be judging, sentencing, & drawing conclusions, by a reasoning, so ill counterfeit that it bears rather the Character of Madness; The vulgar (being apt to mistake every consequent in Medicine, for the effect of Skill) often confound by their sentences, the chances or sequels of the Ignorant, with the effects of the Skilled, and so becomeing Prodigal wasters of the reward due to Skill, by misplaceing that recompense upon its contrary Ignorance, they take off the *allurement*, to Industry the Parent of Skill, thus adding to its difficulty, they deprive Mankind for the most part of the benefit thereof. And moreover the favourable Judgment of the vulgar concerning the *Physician* turning always to the byals of a forestalled Opinion, that is to be Imposed on them either by his Prudence, or some other byrespect (it being very hard to have true *knowledge* of his skil) makes it altogether necessary for the *Physician* to endeavor by Artifice,

tifice, and Culture to become one of the most modish and plausible Gallants in the Court of opinion.

And so People madly choosing rather to be artificially Imposed on, than honestly and Skilfully dealt with all, and being willing to purchase the gratification of their *humors*, *curiosity*, & *caprice*, tho at the cost of their better concerns, health and life, comes to be the great *tentation* of *Physicians* to wast their Spirits and time, in studying and exercising Practise on the humors of the mind rather then these of the Body, to obtain favour, and esteem to themselves, rather then health to there Patients, in the mean time neglecting as nothing contributive to these Purposes, all study and care of acquireing true and solide Skill or Medical Prudence, pre-conceived and pre-acquired opinion serving as a refuge & *sanctuary* from all effects of Unskilfulness, and scarce any real Skill or Innocence being able to weather out the blasts of an evil and groundless opinion, without the help of *Artifice*.

The vulgar Errors of the preconceived opinion of experienced, discovered.

And further years in the *Physician* seldom fail to contribute a good *Equipage* for *a preconceived Opinion*, and that under the *notion* of *Experienced*; these indeed serving with little other assistance to set up the Aged on some *pinacle*,

of *fame*: Such being the fond *Opinion* of the *populace*, because *Nature* brings all things to *maturity* and *ripeness* through time, therefore they think this *Relation* and *Ally* of Nature the *Physician* however *insipide*, *vapide* and *crabbed* stuff he be compact'd of, that he must be mellowed and brought to the Ripeness of *Experienced* also thorow time: *But a quite other thing is Experience, then is commonly conceived*, and not being alwayes the product of time in a *Physician* it seems rather to be the Product of sagacious Industry (after a long contemplating) making such an exact Observation of all the concurring Causes and Circumstances going to make up any *Phænomena* or *Effects*, as may begett in the *Physician* an *habitual Promptitude* (so far as human Power can reach) to produce or ward off these effects or *Phænomena*, *Pro re nata*; And this Experience is only gotten (as was before Intimated) by the Considering and Pondering the most exact, clear, and full *Histories* of *Natures Operations*, and *Phænomena*, whereby the best *Notions* of her *Lawes*, *Customes*, and *Constitutions* being Imprinted in the mind; The surest *Directive Ideas* likewayes will arise therefrom, how to moderate Supplie and Regulat her *as the case requires*.

For

For in the conduct of *Nature*, as the onward concurring and visible causes do empty and waste themselves in the production of the neareſt *Continent Cauſe* of the *Phænomena*, and with concurrence of, and allowance to the *Suſceptibility* of the ſubject they do further ſtamp their *Effigies* thereon, ſo does that *Continent Cauſe* (with the ſame Concurrence and allowance) manifeſt and characteriſe it ſelf by theſe *Phænomena*: And Nature having (thô exceedingly various and multiplicite) yet a Certain *Uniformity* herein, and the Comprehenſion thereof only rendering her in proportion thereto tractable by the Artiſt, this moſt ſurely be the alone thing that denominats *Experience* in *Medicine*: And further as the ſtudy of theſe *Hiſtories* is the road only leading to experience, whoſoever then takes any other way, with how much ſo ever *Aſſiduity* & *Application* he contend to make progreſs toward *Experience*, ſhall be found walking at random and widening his diſtance always to ſtray the more therefrom.

That a long and conſtant *Practice* is not alone ſufficient to acquire this *dexterity* & *experience*, will be farther plain by conſidering the difficile delicate & untractable *Genius* of *Nature*, not improperly comparable to that

that of a *Captious tetchie* and easily *irritate* master, which makes his service as the exercise of a very *Circumspect Prudence*, so an exceeding *hard task*: Yet this Master haveing a servant, who by his diligence and Caution observes Curiously what things, and by what order & concurse of circumstances, either in his Master or the things themselves, these makeing their impression him, use (by grating or cherishing him) to excite or lenifie his evil Humour or Canker: And who likewayes faithfully treasures up in his mind or otherwayes, these his *observations* to be imployed as directives for the advantage of his future service, this servant is not only capable to perform to his Master pleasant and profitable Service, but calming his severities, moderating and governing him, may exercise a kind of *dominion* over him: (as it has been observed that some wyllie Servants in the like circumstances have done) When another Servant void of this *warrieness* and *prudence*, thô growing old in his service, thorow inadvertancy or carelesness, misguiding his Affairs, does still exasperate him, and shall never render him placable, nor any thing mitigate the nature of his *despotical dominion*: The same very way the prudent

and

and cautious *Physician*, Natures Minister, carefully observing her genius, and by his circumspection diligently catching and using all the opportunities to serve her (thereby sopiting all her severities) will undoubtedly become a *Moderator* and *Arbiter* thereof, and in consequence have his prudent Service recompensed by Natures subjecting unto the *political dominion* of the *Physician*. Whence, it is clear, that *Experience* and *Skill* being almost *identified* and acquired & exercised by the same conditions and measures, old age therefore in a *Physician*, is no more capable alone to produce *Experience*, then in other Men it begets *Wisdom* and *Prudence* in the rest of Humane Affairs.

Yea, Years are very far from bringing on apace with them such a deep rooted and solid *experience* in *Medicine* as may yeild a fruitful Harvest of effectual Practice, where the Aged (and Age bringing on apace with it sloath) have only grown old in these *Hypotheses* of *Theory*, and *Methods* of *Practice* founded thereon (now of late perhaps both convict'd of error) in which they were at first instituted, they sticking as close by these as others to the Religion, in which from their Infancy they have been educated, such indeed being the power of education

tion, which upon most has a *dominion* and *empire*, but upon these exercises a *tyranny*, in keeping them *manacled* in the chains of *chimerical* prejudices, and fetters of *theoretical* errors so much the more hurtful to Mankind, as being really damages under the pretext and show of profitable helps: Especially where sloth & ease is in the play which freights them to go to School again, or enter into a new Apprentiship; or Vanity and Pride, which layes aside the professing any thing importing the reproach of that *vain knowledge* that did formerly puff them up: Which indeed would not so much depress them as the perseverance therein, does both them and the Common-good of Mankind. To err indeed is Humane, but to preserve therein, notwithstanding of the Light, and in a matter of much import, seems Diabolical.

From all which, it is plain, that as Artifice in the *Physician* and Error in the people is the best *soil* and *compost* in the natural *climat* of *Opinion* of the most *fragrant* and *luxuriant* Reputation, so real Improvement and Art transplanted into that clime, are likely (as exotick Plants) to give a very flaccid and languishing Figure.

How deplorable then is it, That *Medicine* which

which being for the solace of our Miseries should be, and that by our own faults, so depraved as to conspire with them against us, and prove but a miserable and deceitful Comforter, in so far as the *Artist* is put under the strong and invincible necessity, by its being most easie, advantagious, and honourable, to prosecute his own ends, altho with the neglect of these of his *Art:* And that he should be put under the pussling difficulty to consult both his own *credite* and his *Patients Health*, he being obliged to acquire and exercise at once qualifications wholy satisfieing and advancing his reputation, but of no further use. Any other Skill apearing perplexed intricat and superflous, from the care whereof vulgar *Opinion* and *Error* has wholy *Emancipated* him: Because interfeiring with his esteem at least nothing advanceing it.

The vulgar Error of the vanity of Medicinec onsidered & disproved.

Neither seems *Medical industry* and *Improvement* under any better circumstances of thriveing or advance, by another *Opinion* that being prettie triumphant in the *world* is *Endemical* to those, who think themselves wiser, as being less *credulous* or apt to be Imposed upon by *Artifice* and *Prudence* then the former sort: Such thereof only

only look on *Medicine* as an Art big with great Pretenſions, which being brought forth without the Mid-wifery of ſimple *Credulity* amount to nothing worth the while; and ſo run to the other Extream (the Badge likewiſe of profeſſed Ignorance) of doubting and diffidence, and conſequently, *Contempt* of all *Medical* Endeavours: Now this *opinion* deems the conduct of our Lives toward their *Period*, committed either to *Rigid* and *Inexorable Fate*, incapable in its *Carrier* of any Stop, or to *Tottering* and *Wavering Chance* unmanageable by the diſcreteſt conduct; and therefore it excludes as vain all means of Health and Life: The former *Opinion* deſpirits and depraves *Induſtry*; this taking aim at *Perſonal Prudence*, quite extinguiſhes and kills *Medical Prudence*: That tempts to *Impoſture* this *Brands* the moſt ſerious and ſucceſful Endeavours therewith: That incourages hopes from the *Phyſicians* Endeavours, (ſince all Dangers under the viſage of evitable, confound leſs then the ſame allayed with no meaſure of hopes to eſcape) and this ſterving all hopes is enough alone to kill the Patient, and make the King of Terrors more terrible, and fearful, implying the ground he has advanced unto, to be reco-

verable, only at his *diſcretion*, and his *earneſt aſſaults* to be paſt remedy: And it is indeed from no ſmall mixture of this baſe *Allay* in the *Opinion* of ſome, who uſing the *Phyſicians* help, & altogether uncapable of Privacy to their Eſcapes, by putting ſo ſmal value on their Pains & Induſtry, that the aſpiring *Improvement* in this *Art* is likewayes clog'd.

But indeed this robbing of *Art*, to enlarge and dignifie Natures *Empire* over and with all effects, may be properly both reſembled and confuted, by takeing a glance of that groſneſs which poſſeſſed the *Indians*, when they took *S*hips for great *Animals*, here being nothing but the not comprehending the Artificial *Intrigue* of their ſtructure (the chief cauſe of their *Phœnomena*) that gave riſe to that Miſtake and Error.

So likewiſe, there being many products that to a ſhallow and overly view, althô they bear the Reſemblance rather of Nature than Art; (as a *Watch* appeared to a certain King of the *Indians* to be a living Creature, when he asked what kind of Food it lived on) yet ſuch Products, to thoſe having the Eyes of the Mind capable by a more diving, ſagacious, and poliſhed Inquiry, to make exact and full ſurvey, will impreſs and diſplay their true Nature: This *Capacity*

city being the absolute condition to get true Knowlege without mixture of Imposture; no wonder then, through want thereof, that the busie, active, and restless part of Man, which is still judging be precipitat unto Mistakes and Errors in the Dark.

And indeed this *Turkish* fixing of Fate, in spight of all Endeavours, did it ever hinder any to pull his drowning Friend out of the water, or a Choaking bone out of his Throat? the stop put to Death in his full Carrier and the warding of the most potent and direct Thrusts of *Fate* being here conspicuous, and Diseases being as certain, thô more private, and hardly stopt Leaks to let in Death at, which never makes passages, but only enters in at these which Nature has left open, when Art fails to observe and close them; & also seing the *facultys* of the Mind as well as the *Organs* of the Body, by their natural Strength and Exercise, by Application, or other Artificial Helps, may attain to many degrees of *Perspicacity*, *Activity*, and *Perfection*, beyond what they will be without these, or in one Man under the Advantages of these, more then in any other without them, that the difference (especially in sensible things) is

even *Stupendious:* Why may not then such Improvement (upon the ground of Natural Vigour) make the Mind *Susceptible* of many *Impressions* giving both Light and Knowledge to espy these private *Posterns* Death makes use of, and also to find the means to stop & close them, & here also be had as certain *evidences* of *warding off death*, as in the other caise, thô as proper only to these having such *enduements*, as the seeing the danger and relief of a drowning Man is proper only to these that are not blind.

And that *Conspiracy* frequently entered into against our Lives, by Deaths *Agents*, second Causes, tho th rough its depth, and cunning its above the *Vulgar sight* to discover and *capacity* to prevent and stop, yet as it may be reached by the eye of the *Sagatious circumspect Medical Politician*, may also be *counteracted* by his *power* and *Art*.

And it being also very probable, that (the Body seeming a curions *machine*) motion is the main *ingredient*, if not the very *Essence* of our Lives, the *period* whereof consists in a total and permanent stop put thereto, and the Integrity of that motion depending on the soundness of the first mover, the matter moved, and the passages through which motion is made, it seems this

this Machine is as well as others subject to many disorders, and as other engines have their particular Arts subservient to their *Regulation* and *Redintegration*, which by picking out the causes thereof, may by convenient instruments and means remove their Stops and help their Disorders, why may not Art likewise take place, in relation to the distempers of the *œconomie* of man, were it for no more then to save the *Irritancy* of a great part of the Creation, which seem pregnant with these advantages to Mankind, but being rejected for Instruments, or Means here, seem of little or no use at all: And further what great difference both in the Advantage and Pleasure may be perceived betwixt Nature going wild at random and liberty, and the same subjected to Artificial *Culture* and *Improvement*: As may be seen in the difference betwixt wild Fields and well cultivat Gardens; yet such as neither perceive, nor know Arts Influence here, would certainlygive the honor of these improvements only to *Nature*.

And as *Nature* furnishes Matter in some cases for *Art* to work on, thô in others *Nature* furnishes only occasion by its stopps, & disorders, into which it may be brought rather from other causes, then any thing

within it self; And so may not *Art* be usefull as a Confederate and alley to help and rectify Nature in the Straits and Disorders of the *machine* of our Bodies: And as in the Regulating and Helping of all other *Engynes* there may be imployed several degrees of Art and Skill, as for example in a most Curious and Ingenious clock, the disorders especially such as come by misguiding, may some of them be restored by the proper Skill of the owner while for others that are more difficult, he must borrow the Advice Help and Instruments of a more *Expert Artist*, yet these that does not know or believe there are any more expert must conclude that the *Masters* proper Skill and Instruments alwayes does the *Fait*: Why may it not be just so about this *machine* the keeper & master whereof Nature, making considerable *Efforts* and *Essays* for *redentigration* of it's disorders, but when these are *frustraneous* then the accession of the Skill and Tools of the *Expert Physician* is seasonable, unless it fall out here as likewayes in other Machines it often times fals out, that the disorder tending to it's dissolution, be in the order of *Reparation* incurable, and so requiring the Capacity and Skill of an yet higher *Artist*, contriver and maker of that

that *Engyne*, import rather the *Creation* of a New then the *Reparation* of the Old one: Neither does this so much disparage the skil of the lesser *Artist* as extol the *admirable & inimitable Art* of *the first* and cheif *Architeck*, in displaying so much *Stupenduous Skill* in that curious Contrivance of a piece of work, which being maimed in it's substantial and Essential parts and motions is nowayes *Redintigrable* by minor Artists.

Now the fruitlesness of *Physicians* endeavours resolves alwayes in some of these; *(viz.)* Either in the want of dew administration of such promising helps as the *Art* does really afford, and that either by the fault of the Patients or other assistants: This is by an unjust Ignorance Pinned on the *Physician:* And nixt it may depend on the *Physicians* not discovering and curing what through *Art* and *Industry*, being perceiveable, is also cureable: And this does indeed taint him with a certain, thô most part secret *Guilt*, which the *Criticks* in *Medicine* suspecting, at adventure by an Ignorant Justice may casually *Hitt*, but scarcely know: Or finally the unsuccesfulness of *Physicians* Practice depends upon the case, being by Art & Industry, either *Indiscoverable* or *Incureable* or both, especially such as sudden Accidents and *Essential Breaches* which do no more

more concern him to repair, then to be a *Creator*. Now the most conceited Pretenders to the Arbitriment of the *Physicians* Fame, are altogether in the mist justly to determine them, when such cases do occurr.

The uncertainty of Prognostick, a great piller of that Error considered & removed

And farther, there seems nothing more perswasive of the vanity of his Endeavours, then the discreet *Physicians* unwillingness to be brought on the Rack of *Prognostick* of the event of the Disease, this being the question he is first and most importuned with, and a *quack Expedient* extraordinarly gratifying *Curiosity*, seems also to be the earnest of a more *solid Skill*: And if he venture thereon, as he luckily hitts, or unluckily misses, it does not fail accordingly either to add to, or pare, both his Authority, and that of the *Art*: But the wiser being shye therein, it is constructed by most, to spring from a consciousness of such uncertainty in the *Art* and *Practitioner*, as puts all Endeavours on the borders of *Fruſtraneous* and *Vain*, and that the Cure when it falls out must be rather an effect of Nature or Chance, then of Art and Skill.

But surely, *Prognostick* seems to contribute no more to the Cure of Diseases, then *Pal-*

mistry

miſtry does to the conduct of our Lives and Fortunes, and any *Dexterous Hitt* therein is improven more to advance the *Phyſicians Perſonal Value* and *Ends*, then theſe of his *Art*, and raiſes more a tottering *Reputation*, then is either the *Product* or *Manefeſto* of any *ſolid Skill*: And *Prognoſtick* being alwayes moſt ſure on the worſt ſide, let all therefore beware that put too much ſtreſs thereon, leſt they get their doubts cured to their greater coaſt, & put the *Phyſician* ſometime in the ſtrait (to ſave the credit of his *Reputation* built on that of his *Prediction*) to neglect, not to ſay worſe, the plauſible means of Cure; Or at leaſt, that theſe ſatisfying marks of his Skill, be rather ſuitable to the uſual events of the vain and empty *Methods* he makes uſe of in the like caſes.

Now farther, althô Medicine be ſeated with much more diſadvantage for a *Proſpect* to make a certain *Prædiction*, then other *Profeſſions*, in which the claim laid to the wiſhed effect cannot be denied, yet theſe cannot contend with Medicine in the certainty of *Prognoſtick*: As for example, in *Law* where the Rights or Strength of both Parties is fully laid open; yet there is often as much diffidence & uncertainty to which ſide the Ballance will caſt: And in *War* where

where circumſtances concurring to bring Light to *Prediction*, may be yet more in the Dark then in *Law*, but not ſo much as in *Medicine*, for thô the Strength and Courage of both ſides, with ſundry other conſiderations affording probable Conjectures towards a concluſion concerning the event, may be diſcerned; yet there may be unſeen *Stratagems*, and accidental *Contingences*, which may make promiſing Victory both to hover and light on the unexpected ſide: And yet all theſe difficulties, or uncertainties in the determining the event, do not ſo much diſparage and make appear vain the Endeavoures of theſe uſeful and noble *Profeſſions*, as they ſerve to quicken the Eyes of *Circumſpection*, and raiſe the value and glory of brave and ingenious *Behaviour* in diſperate and dangerous Caſes, whither ſucceſful or not: But indeed in theſe Arts the wit and direction in the conduct being palpable, where the miſcarriage of the ſucceſs may be pinned, is alſo alike viſible.

Now *Medicine* thô as to *Prediction* it has equal certainty with theſe Arts, yet it has the misfortune to be under far worſe circumſtances, yea, and even under inſuperable difficulties as to the certain and exact knowledge of the preſent poſture and ſtate of Affairs about

about which it is to be an Actor: For being often to act a *Scene* within the *Curtain*, when it self ſtands without, and having none to conſult therein, but very ſubtile and inſidious *Intelligencers* the *Phænomena* and *Symptoms*, (for true and ſure Intelligence, being the life of *War*; Is likewayes the Soul of *Medicine*) and becauſe there is much difficulty, there is need of great ſagacity to unriddle and decypher the myſterious appearances bringing Light to the preſent condition of Affairs, and any Light gotten, ſhould rather put the Artiſt upon juſt meaſures how to act then to predict; and make his endeavours run in this, that his hands may not come too ſhort to help ſuch timous diſcoveries as are made by his Eyes.

But in ſum, all this matter being both acted in maſquerade, and among ſuch a croude of common Enemies ſecond cauſes roving up and down, (and having more power and influence then is perceived require alſo alwayes ſtricter Guards then is believed) ſome whereof either by inadvertance or meer accident, may impinge one and overturn the faireſt appearances of Eſcape and Recovery; no wonder then that there can be no more certainty either in the Conduct or Predicti-

on,

on, then the circumſtances & the unalterable nature of the thing does determine & allow: And the Inference of the vanity and emptineſs of *Medicine* in its conduct from the uncertainty of Prediction of the event of that conduct, equally militating againſt other known and commendable Arts, ſeems of no more import in the one then the other caſe.

Upon what does the Arbitriment concerning the Medicinal Practiſe depend.

It being never conſidered among all this *Buſle* of Totturing and Wreſting Medicine to the Touchſtone of very incompetent Judgements, that the only Solid and Prudent knowledge in Medicine turnes upon the *Cardanal hinge* of the true underſtanding & uptaking of the genuine and true propagation of effects from their cauſes; In the due comprehenſion whereof as the *Phyſicians* Skill is eminently denoted, ſo the ſame gives only right and title to the Arbitriment of the *Phyſicians* Fame and Merit: And ſometimes matters here are ſo obſcure from their depth or ſublimity, that the quickeſt perſpicacity of profoundeſt Artiſts will falter and hallucinate, and be modeſtly ambitious of the *Epithet* due to the happy Inquirer.

Felix

Felix qui potuit rerum cognoscere causas.

while blind *Ignorance* and *Precipitant Imprudence* Spurrs on, almost every one to arrogat to be an *Arbiter* therein, but how deservedly will appear, if we consider that Health and Recovery is still the work of Nature primarly, and the subsidary Help of the *Physician* is designed only to remove Impediments, now how does this *Arbiter* of *Physicians* know whither the *Direful symtomes* arrising in a Disease, be the effects of obstacles put by the prepostorous Ignorance of the *Physician* and Regimen, rather then the Native products of the Disease; Yet after the recovery from this Disease, when perchance, nature attacqued both by the *Malady* & the *method*, was almost brought to succumb, and only by the vigor of temperament escapes, notwithstanding by means of the *Physicians Prudence*, never calling Nature to the plea, this *Arbiter* precipitantly and ignorantly gives sentence approbative of the *Cure*, as redeeming from a prodigious Danger, but in the mean time if any *Interpreter* or *Proxy* were admitted or sent from Nature to expound and speak, it would clearly evince that the Method made all these terrifying symptomes, which is evident and palpable from this, that in some

diseases

diſeaſes as for example, the *Smal Pox* (which is little noticed by the moſt part) in ſo fart as you indulge a hot and *Cordial Method* and *Regimen*, which indeed is the moſt uſuall in this Diſeaſe, all the horrible dangerous ſymtomes fall on proportionably, which Diſeaſe being treated with a contrary *Method* and *Regimen*, all theſe do evaniſh or leſſen; Unleſs the former error has engraven them too deep.

The diſparity betwixt the Arbitriment Concerning Practiſe and Policy, and that of *Phyſicians*

Juſtice, *Law*, and *Policy* conſiſt in the conſideration of what contributs to the good & integrity of the *Society*, wherein is comprehended that of every ſingle Perſon; The due proſecution whereof, by theſe intruſted therewith is obvious to the preſpicacious Judgement of moſt if not all, and thô ſome endeavour to *Mountebank* it alſo in *State*, and with the *ſtock* of publick *Authority*, *favour* & *influence* drive *private* and *by-trade*, yet the tendencie of the meaſures being by the Ballance of ſound reaſon examinable, there can ſcarce be any conſiderable or laſting deception therein, every Man almoſt being Maſter of as much reaſon as may with a litle education qualifie him to judge therein, ſo the honeſt Practi-

Practitioners of these *Disciplines* are rarely destitute of their due merite and applause, or Impostors or *Ignorants* under any *Mask* able to rival them.

But it is farr other wayes in Medicine which consisting all in matters of fact and experiment drawen out of the *Phænomena* of Nature and Practise bears no other trial of reason then what is *Commensurable* by them: for as Nature has its proper *Lawes* and *Customes*, so *Medicine* that *Moderats Nature*, has its proper Measures for attaining its ends, suted to these, the adequatness whereof are only conspicuous to the *Adept* and *Sons of Art*, and these genuine and true *Sons of Art* are only among themselves (as its talked of the Brethren of the *Rosie Cross*) mutually conspicuous, escaping the sharpest sighted of all others seeing no more but Skine deep in this *Cryptick* Art.

Hence it is that these have only usurped Fame and Reputation in this Art, who having strained & violently bended Medicine by excogitating or feinging *Specious* & *Rational Theories*, by which, altho without reall foundation, the wits of learned Men have been extreamly charm'd, and the Inventers have thereby enhanced great Fame & Reputation to themselves, but whosoever having

having their heads ſtuffed with ſuch rational *Theories* ſhall attempt to *Practiſe* conform & pylote by them, will find they are nothing but *wild fire* leading into *devious* & *dangerous pathes*: It's therefore only Solid and Sound Practiſe that muſt yeild a true *Theory*, and ſuch will altogether quadrate with practiſe, and be farther uſeful thereto, as is plain in ſeveral *Mechanick Arts E:G*: In dyeing where the variety of coloures, and their Multiplicit *Generation* and *Converſion* furniſhes the *Philoſopher* with fine *Speculations*, but none of theſe are ſolid, Profitable, or for the further improvement of the *Art*, unleſs ſuch as are taken from the *practiſe*, or agreeable thereto, ſo the *Mechanick* gives Laws to the *Philoſopher*.

Only from Practiſe comes Improvement in Medicine.

And indeed this method of beginning at *experiments* to eſtabliſh *Theorie* has given both name and ſolidity to the *Philoſophy* of this Age, and diſcovered the vanity and infirmity of that of the former Ages.

As it is in *Philoſophy* called *Experimental.*

Neither was *Philoſophy* more empty, which from *Ariſtotles* dayes, untill of late received ſmall Improvement, then was *Medicine* which from *Hippocrates* time ſo much ſtrayed

ſtrayed from advancement, that leaving his Methods, *to wit*, of diſcribing the *true Hiſtories* of Diſeaſes, and drawing *Indications* therefrom; All Writers almoſt deliver the *Hiſtories of Diſeaſes* ſuperficially, without particular branching, or deſcending into their *Specifications*, but comprehend under one *Type* theſe that differ much from one another; as alſo, what they deliver, being according to their *Theoretical Hipotheſes*, is more to confirm theſe, then to illuſtrate the Diſeaſe in its *Natural Figure* and *Shape*, from which can only be drawn *Indications* that are tottering: and to ſupply theſe defects, they heap up ſo great a Maſs of Receipts, that the wavering Election, miſtaking the *Remedy* of one Species for another, rarely hitts the Mark: And farther, the moſt part following cloſe the footſteps of their *Predeceſſors* ſeem rather to have *Copied* then *Written*.

Does not then *Medicine* wrapt up many Ages with *Philoſophy*, in the ſame *Fate* of Obſcurity, by the miſt of *empty Theory*? require likewiſe with it to be experimentally inlightned and advanced; for it is not to be judged, that time which has rypned and brought to perfection all other Arts, ſhould leave *Medicine* altogether *Stationary*, as incapable of farther *Culture*, becomes it

not therefore all generous and ſagacious *Phyſicians*, having entered the right path of Diligence leading to true *Improvement*, with all their might to liberate this noble Art, from the chains of Errors and Fetters of Prejudices, and to make it ſplendidly triumph over all Calumnies and Detractions, to which it has been ſo long, eſpecially throw vain *Theories*, obnoxious; and that by inquiring, ſo far as *Natures* Light whetted with *Induſtry* will go, into a ſolid and experimental Improvement, and only by ſuch ſafe conditions and meaſures as are adequat and propper for acquiring thereof, and thereupon to found a genuin and ſolid *Theory:* which will not only enlighten the underſtanding with true Impreſſions how theſe experiments are produced, but will alſo give direction to apply the ſame true Notions to fatther *experimental* Improvements.

SECT;

SECT. IV.

That the great advantage and import of the Improvement of the Cure of Continual Fevers, *making it highly the* Physicians *concern, to advance it, makes also what is already said, as a* Præliminary; *not improper: where also is shown that the common* Indications *and* Diaphoretick Method, *Comonly used in* Fevers, *being considered, ought to be disaproved; and that the* Authors Method *proposed being also considered, ought to be embraced.*

AS in all *Humane* and *Wordly concerns*, there is nothing more *Valuable* and *Precious* to Men, then the Life and Health of themselves, and their deareſt Relations, without which all other *Wordly Comforts* are unreliſhing; So among all *humane ſtudies* and *Arts* (the effects of Mens endeavours to ward off, or *alleviat* to their Miſeries, and Calamities) there is none whoſe due Proſecution and Improvement is more acceptable then *Medicine:* In like maner, there ſeemes to be no ſubject in that *Art*, that partaking more of the general advantage, requires more to be Improven, then this Subject of *Continual Feavers* does: And that

by reason of its extent, (for with its *Pendicles* it takes up the half of all the *Diseases* that Men are afflicted with) and of its danger and *Precipitant invasion*; It being the *Disease* that by a *Sudden eruption* and *Devastation*, in a trice overturnes our Hopes and Comforts, doth therefore make the loss of Life more bitter and grievous; This *Disease* seeming to Envie and Prevent other *Languishing Distempers*, or *Wrinckled Age*, in the spoil of *Beauty*, and ruine of *Strength*, triumphs in their Sudden and Unexpected downfall; And by the cruell *Ravage* it makes, outdoes a leisurely dissolution in dismal effects both upon the *Souls* and *Estates* of many *Mortals*; Men being thereby in surprize hail'd out off the arms of seemingly *perfect Health*, & *Security*, & throw the vale of *miserable delirium stupidity*, or *Distraction*, precipitated into the *Shades* of the other World: life here being taken by *furious storme*, has all the dreadful effects of a *Pitiful saccage*, while a *leisurly dissolution* gives oportunity for Preparation to make Peace with the *great Monarch* whose *Messenger Death is*, and for a honourable and happy *Surrender*: And now since all this is done under the *Presidence* of a *Government*, whose trust makes it the concernment thereof to inquire narrowly, whither negligence or mistake may give occasio

to

to the Course of so sudden a *Devastation*, this makes it no less the Credit of Faithful *Physicians*, then the *Common interest of Mankind*, to put the Cure of this disease to appear in the *first rank* for *Tryal*, *Reformation*, and *Improvement*; And may also shew the reason and necessity of our going so far back and making a *Ramble*, to rally up the whole force of that *obligation* lying on the *Physician* to *diligence* aud *Improvement*, and to *conjure* down *negligence*, and *araigne* all *vulgar errors* and *mistakes* capable to stiffle or deprave *Improvement* in this particular Subject, or any other in that *Art*; Such indeed seeming to stand like Mountains in the way, by serious consideration therefore deserve first to be *removed* and *levelled*.

In Pursuing then of this *Improvement* of the Cure of *continuall Fevers*, it comes to be observed, that althô the remote and *Antecedent* cause of this, and most part of other Diseases, seems to be a load of Humours often *viscide*, yet scarce do we understand the *specifical essence* of this or that humor, which excites this or that symptome, and produces the variety of *diseases*, except in so far as the nature of the place it clogs produces the *symptoms*, (and this being a purely *Mechanical reason* gives but little light to the *specifique*

ſpecifique quality thereof)far leſs can we tame theſe *noxious humours* with *ſpecifiq*; or appropriate Remedies, which were indeed the beſt *experimental improvement*, were it known; unleſs in ſomuch as the *cortex peruvianus* ſeeming to be the *ſpecifique* of *intermittents* is known; And altho ſome eſſay to explain the *eſſence* of *Diſeaſes*,&lodge it in ſuch *modification* of the *figure*, *quantity*, and *motion* of the *particles* of matter, in reſpect of the *pores*, *fibers*, and *channels* of any Bowel or Organe; which make *obſtruction*, *impreſſion* of pain, *irritation*, *convulſion*, and the reſt of the *ſymptoms* competent to this or that Organe, which *modifications* ſeing they cannot as yet be determined, and pitched on, as by their ſubtilty eſcaping the Edge of the ſharpeſt Ingine, neither can theſe be reached or ſubdued by way of *Indication*.

Therefore as yet all our certain *cure* and *curative indications*, are directed not againſt the *continent* and neareſt cauſe, but only againſt the *antecedent* cauſe, or *fewel* of the diſeaſe; *to wit*, to carry off the *load* of *humours*, and not to attacque its *ſpecifique*, and *evil* quality, that being ſeldom if ever hit, and if at any time, but by a very faint blow. and althô the *ſpecifique* cure providing it were known, would be both the ſhor-

eſt

teſt and ſureſt, yet this cure might ly open to the like hazard that ſometimes falls out in the Cure of *intermittents*, by the copious uſe of the *bark*, which as our worthy *Author* obſerves are ſometimes thereby tranſlated into a *ſcrobutique rhumatiſme*, the *morbifique matter*, being diveſted of one *ſpecification* or *modification*, puts on another.

Seing there is no *ſpecifique* cure pretended to, in *continual Fevers*, their cure muſt then lean on ſome *indication*; which *falſe Theory* and long *cuſtome*, has made to degreſs and decline to the ſatisfying the common *indication* of *attenuation* of the *Febril matter*, and expulſion thereof throw the *pores of the ſkine*; ſome forceing it by a milder, ſome by a ſtronger, and all urging it by ſome degree of *Diaphoreſis* but ſtill without any triumphant or ſolid, yea rather, with many lamentable and funeſt *experiences*.

The common and diaphoretique method conſidered.

This indeed were no unfit Deſign or Method if the *morbifique* matter were ſo thin and little, and ſticking in the *ſuperfice* of the Body; that it might eaſily yield to the impulſe of *Diaphoretiques*: But on the other hand where the matter or at leaſt the *fewel* of the Diſeaſe is copious, *viſcide*

viſcide, and beſets the firſt wayes the *Ventricle, inteſtines*, and *meſentery*; in ſo far as you attenuate and force that matter by *Diaphoretiques* in proportion ye ſhal tranſlate and turn the *antecedent cauſe* lurcking there, into the *continent* and neareſt cauſe of the Diſeaſe, *to wit*, by ſubliming that *viſcide* and *obſtructing matter* into the maſs of Blood, and habit of the Body; which ſhall further exaſperate the tumult of the *Fever*, and overwhelm the *natural efflux* and *reflux* of the Blood, and thereafter this matter being carried from the *maſs* of Blood into Head, and *region* of the *nerves*; will likewiſe excite there *ſymptoms* competent to them being ſo infeſted, till at length nature unable to wreſtle under ſuch a *load* of *viſcous* matter poured in upon the *Blood* and *Nerves*, wholly deſpirited and overwhelmed muſt ſuccumb.

The *Fomes* in Fevers conſidered

And that ſuch an *viſcous, ſlimy*, and *copious* Matter is at leaſt the *antecedent* cauſe and *fuell* of many Fevers, perchance alſo of all, can be made evident not from any *Ratiocination*, but from *Antopſia* or *Senſe* it ſelf.

For in ſeveral Fevers, eſpecially theſe accompanied with *delirium* or *raving*, there has frequently been ſeen a great quantity of

of such *touch flegm*, sometimes evacuat by stooll, sometimes by Vomit; and that only by putting the Finger into the Throat; after which evacuation almost an total ease of all the *Symptomes*, but chiefly of the *delirum* or *raving* did follow; until that after some dayes the matter *reexniting* and *regurgitating*, and bringing the same *Symptoms* required a reiterated *evacuation*; which was *signalised* with the former benefit; and so furth, as the plenty of the matter required, until a perfect Evacuation Cured the Disease. : What *novice* in Medicine will judge such plenty of Viscidity and Slime could be with advantage or safety forced into the *Mass of Blood*, to be expelled throw the *Pores of the Skin*; or that it can be so attenuate, especially under the languid natural Heat of Persons in *Fevers*, that it be noways *hurtful* or obstructing, when it comes to the small *capillar Vessels*.

Refrigerants considered.

As to the rest of *Medicaments* used in *Fevers*, as *Refrigerants* subservient to the *indication* of *Refrigeration*; since it can be shown that heat is nothing of the *essence* of *Fevers*, & that their proper effect is to encrease the *viscidity* & *tenaciousness* of the humors (perhaps the *continent* cause of *Fevers*) they do rather

rather hurt then help: As likewise, these that are called *Temperers of Acrimony*, and *Sweetners of the Blood* seem to be no more profitable, in regard *Acrimony* consists in such a *modification* of the particles of Matter, in their *figure* or *motion*, in relation to the *texture* of the *Organs* or *Bowels*, bringing trouble or pain thereto; and we scarce knowing where in that *Modification* making the discrepancy betwixt the *Agent* & *Patient* does consist, we can hardly form thereto an *adæquat Indication*: And althô this *mitigative Indication* could be found and satisfied, since it does nought to the Disease or its Cause, by prosecuting thereof, you advantage no more, then if ye should apply *Anodyne Balsoms* to the skin, sore with whipping; and yet still whipp one.

Temperers of Acrimony & sweetners of the blood

And farther, since all these *Symptoms* commonly supposed to arise from *Acrimony*, are only the result of the efforts of Nature strugling to ride it self of the Disease, and are raised various according to the genius of the matter besetting, and the *organe* besett; altho these could be perfectly subdued, when the Disease and its cause are untouched, what if the Disease restrained in one *Symptome*, shall break out into a more dange-

dangerous one; ſo little *coercible* or *obſequious* proves Nature to any *prepoſterous* and *undiſcret* management, that thereby rather are tranſlated, then extinguiſhed or directed, its *irregular* and *impetuous* motions; not very unlike as when a Dam of water is kept up by a Bank, without drying up, or diverting the ſource that increaſes it, as it is ſtopt at one breach, it will alwayes make or find another.

As for *Aperients* and *Inciders*, they being much about the ſame *Nature*, have the ſame *Inconvenience* with *Diaphoretiques*; Eſpecially where there is a *Copious fomes*, or great *Obſtructions* in the *Capillar Veins*; For by there grating and grinding off *Particles* from the *maſs* of *groſs* and *viſcide Humores*, they muſt exceedingly increaſe theſe *obſtructions*; every *little particle* ſeeming to be of a like *Nature* with the whole, and ſcarce, when in any quantity, ſubjugable by the motion of the Blood, or capable to be ſo attenuate as to paſs eaſily the ſmalleſt *channels* of the *Veſells*; Such then being brought there, cannot but have an obſtructing effect. And farther theſe things being narrowly conſidered will alſo make the Truth of that Obſervation of of our *Noble Author* paſt all doubt, that many

Aperients and inciders.

many and moſt dangerous Symtpomes of *Fevers*, are the native *effects* of the *method*, rather than of the Diſeaſe.

The true method propoſed that is moſt probable.

Leaving then this *Diaphoretique method*, until we find out a *ſpecifique cure* of *Fevers*, ſince we cannot level directly at the *eſſence* of the Diſeaſe, we being moſt part in the dark as to that, what hinders us as is uſual & ſucceſful in many other *diſeaſes*, & which impartial well ballanced experience has found to be alſo ſo here, but that we may proſecute the *Indication* taken from the *antecedent cauſe* or *fewel* of the Malady, by purging; and ſo by intercepting the ſuſtenance, to ſterve that Enemy we cannot get within handy blows of: Is it becauſe in *Fevers* the *tumult* and *commotions* in the *regions* of the Body, in that tottering ſtate of the *OEconomy* would be ſo hightned by the ſpurrs off the Purgative, as to brake out into more furious and incompeſcible *Symptoms*? and the *Orgaſm* that was formerly only in the *Maſs of Blood*, ſhould thereby break over alſo into the *Region* of the *Nerves* and *Head*, and ſo beſet, pervert, and overwhelm the firſt *ſprings* of *Motion* and *Life*.

Now

Now althô this difficulty ſeems not impertinently to be ſtarted, yet whoſoever ſhall lay a great weight thereon, will betray great inconſideration and inadvertance to what our Noble *Authour* has delivered concerning the reaſonableneſs of this Cure, for he clearly ſhews both by reaſon and experience, that the Inconvenience and *tumult* ariſing from the *irritation* of the *purgative*, is very efficaciouſly reſtained by the immediately preceeding *Phlebotomie*, & the ſubſequent uſe of the *Paregorick*; and how happily the *Cathartick* is adminiſtred under this *double check*, theſe that have never tryed it cannot ſo much as dream; Notwithſtanding what ever is ſaid to the contrary by famous *Authors* concerning the uſe of *Purgers* and *Paregoricks* in *Fevers*: which althô it be true in the caſe (which is that mentioned by them) where theſe are adminiſtred ſeparatly & without reſpect to this order and method of our *Author*, that they may not only be unprofitable but hurtful, but according to this his *Method*, theſe means are in that order Connected and Ranked, that they become wholy beneficial; For the preceeding *Phlebotomie*, and *Cathartick* paves the way to, and makes ſafe the effecacy of the

the *Paregoriek*, and the Preceding *Phiebotomie* and ſubſequent *Paregorick*, infallibly Checks and Bridles any noxious *Energie* of the *Cathartick*; As more fully ſhall be be ſhown afterward. But in the mean time it may be conſidered that theſe *Practical Phænomena*, beſide the rational appearances they bear, are by ſuch repeated acurate and evident experience confirmed, that they can no more by Arguments be convelled, or their evidence by reaſoning ſtiffled, then the moſt ſenſible and palpable experiments in *Nature* can be.

SECT. V.

Motives to this Method from the Authors Ingenuity Ability, and the prodigious Hazards he eſcaped, and alſo from his Reputation both at Home and Abroad.

SInce then it is obvious to all that the uſual manner of the cure of *continual Fevers* is ſo uncertain and unſucceſful, that it ſhould prompt all good and wiſe *Phyſicians*, at leaſt from commiſeration of *Mankind*, to ſearch and try all ways for a better, yea, and when Men worthy of *Truſt*, whoſe ability and intergrity may not only deſerve, but com-

command *Truſt*, do from their undoubted and certain experience, complement them with laying to their hand a more ſure and compleat Method of cure: the Inaptitude or Impropriety whereof none can, ſave from *fictitious* & *chimerical* prejudices affirm or aſſert, but noways from knowledge or experience; in which caſe as its the part of (even the moſt rigorous) caution, to ſuſpend Judgement, ſo it gives the moſt grave and profound marks of Folly and Arrogancy, to pronounce peremptorly any thing concerning a matter of Fact and Experiment, altogether unknown to them. He then that wants Courage or Faith to Experiment it himſelf, neceſſarly muſt watch the occaſion to behold the *Practiſe* of others having this *Method* for conduct, and ſo getting a Mature and deliberate knowlege of the thing, he may then with ſome reaſon pronounce his *Opinion* concerning it.

Whoſoever then ſhall do otherways, and either chide or Condemn this *Method* or only contemn or neglect it; Let him have a care, leaſt being ſuported by prejudicate *Opinions* and *Errors*, he be found to lay an Ambuſh for, and aſſault the truth, and to Sacrifice to his contumacy and ſloath the

Lifes

Lifes of the Sick, and the Tears of their Friends: this matter being now so circumstantiat by such clear Evidences and Proofs, that an Errour or mistake therein cannot be as invincible *Ignorance* excusable, but as *affected, supine,* and *contumacious negligence,* representing a true and attrocious Crime is culpable; In respect this method is as clearly (as the *Sun* at noon) displayed in the last writtings, (emitted at length with the Approbation of the *Colledge of Physicians* of *London*; And likewise by the private experience of other *eminent Physicians* approven) of that *incomparible, sagatious,* and *expert Practitioner, D: D: Sydenham,* Who, Alace! to the great los of *Medicine*, departed this life the 29 *December*, 1689. Whose former Writings being most acceptable to the *learned World*, and acknowledged to have brought no more pleasure than profite, most deservedly ought to concilitate Favour, Trust and Authority to this his last *Schedule*, as to his *Letter will* and *Testament*: Neither can it go well away with good Men to think, that this great Man so oft by strange and special *Providences* pluckt out of the very jawes of Death, has been preserved for an *Imposture*, so dismale to *Mankind*: Thò I cannot stay to reckon all the Dangers

Dangers among the Calamities of the late *Civil Warrs*, (where he was an *Actor*) that past with great *difficulty* over his head, as his being left in the Field among the dead, and many other dangers he met with: yet there is one that representing rather a *miracle* than a *common providence*, cannot be passed over, which as I had from his own mouth, is thus, at the same time of these Civil Warrs, where he discharged the office of a Captain, he being in his lodging at *London*, and going to bed at night, with his Cloaths loosed, a mad drunk fellow, a Souldier likewise in the same lodging, entering the Room, with one hand griping him by the breast of his Shirt, with the other discharged a loaden Pistol in his bosome, yet, ô *strange*! without any hurt to him, most *wonderfully* indeed, by such a narrow sheild as the edge of the Souldiers hand, was his breast defended; for the admirable providence of *God* placed & fixed the tottering hand that gripped the Shirt into that place & posture, that the edge thereof and all the Bones of the *metacarpe* that make up the Breadth of the hand, were Situate in a right line betwixt the mouth of the Pistol and his Breast, and so the Bullet discharged neither declining to the one side nor to the other, but

An unparalleled danger he escaped.

keeping its way thorrow all these Bones, in crushing them lost its force and fell at his Feet, O! *Wonderful* Situation of the hand, And more *Wonderful* course of the Bullet! by any Industry or *Art* never again Imitable! And moreover within a few days the Souldier, taken with a *fever* arising from so Dangerous and Complicat a Wound, died; surely providence does not bring furth so *Stupendnous Miracles*, but for some great and equivalent end.

His Sagacity and Ingenuity marred his Reputation.

And further can it be thought that this great Man, who in all the course of his life, gave so full evidence of an ingenuous generous and perspicatious *Spirit*, would or could die an' *Impostor* and *Murderer* of Mankind (which imputation to deserve, he frequently professed, would be more heavy to him, then any Punishment could be) for he it was, dispising the blandishments of the world, popular applause, Riches and Honour, yea his own Health wasted with intense and assiduous Meditations and thoughtfulness, that liberally sacrificed them all for the *Publick good*; In so far, that after he had long weighed and expended the common and received Methods of *curing* most Diseases & there-

therrfore had forsaken & relinquished them as vain and improper, and after his intimate search into the *bowels of Nature* he had discovered others more apposite and Powerful; He thereby only gained the sad and unjust recompence of *calumny* and *ignominy*; and that from the emulation of some of his collegiate Brethren, & others, whose indignation at length did *culminat* to that hight, that they endeavored to banish him, as guilty of Medicinal *heresie*, out of that illustrious *Society*: & by the whilperings of others he was baulked the Imployment in the *Royal Family*, where before that he was called among the first *Physicians*. Behold now the World governed not by *Opinion*, but by perverse Prejudice and mistakes! And not only the due Fame and Praise of Vertue and Worth smothered, but Vertue it self oppresst: But what wonder that his Noble discoveries should be tossed with the same fate, among many other notable *Inventions*, the discoverie of the *Circulation* of the Blood long was; which altho it did illustrate and embellish; and, beside the the self evidence it bare, did most extraordinarly inlighten the *theorie* of *Medicine*, yet was it long kept at the door; and that throw the prejudice of Men, occasioned by their

uncuriouſneſs to be at any Pains for diſcoveries themſelves; and by Pride, hating to receive light from; or to be beholden therefore, to the labours of others; and thus they choice to part with any improvement, before they hazard ever ſo little of their eſteem: after the ſame manner, and from the very ſame Principle, but with much more loſs and detriment to Men (by the ſame, proportion that real profit exceeds meer Pleaſure, and that *Practical* and uſeful inventions, do exceed meer *Theoretical* ones) ſeemed his uſeful and *Practical Obſervations* and *diſcoveries* to have been treated.

And thô it may be thought that the courage of this *Magnanimous Man*, which being rather whetted then daſhed, did ſtill perſevere in his begun *Methods*, ſoon might have weathered out this Storm, which not being univerſal but rather *endemical*, was only within the confines of one City, and perhaps but of one *Tribe* and *claſs* of Men; yea and it may be only of one faction of that *Tribe*; yet often ſuch is the force of *calumny*, that the *malevolent* endeavors of a very few, and theſe very weak Men may, like one that can faſter pull down, then twenty can rear up, ſo far blaſt *Reputation* as to make it very hard for *Innocence*, yea for the

the greateſt *merit* it ſelf, to ſet up the head; and that by reaſon of the *Rude* and *Ignorant* vulgars quick and ready ſuſception of falſe aſperſions, in the production whereof the World is *verry* broody, which therefore being in plenty, are cheap, and eaſily come by; Few being willing or able to purchaſe knowledge or the true repreſentation of things, at the coaſt of ſerious inquiry examination and tryal, the neat price thereof. But at length as *truth* & *light* after they are ſmothered in one place, do break out with more brightneſs in another, ſo theſe efforts carried his *Fame* and *Renown* throw all the Corners of *England*, and alſo into foraigne Nations: and the oppoſition he got, inſpiring with *commiſeration* of ſuffering *merit* ſome no ſmall Men, brought ſeveral ſuch over to a conſtant and faithful adherence to him: althô at the coaſt of ſome piece of *Reputation*, (that requiring to be buoyed up with a *complacency* oftentimes interfeiting with honeſty) & among the firſt, that favouted him, as the truely *eminent* and *worthy* D. *Goodall*, had the ſagacity to receive the beſt Characters of him, and of his practice: So had he the *ingenuity* & *courage*, to be the chief, that in his behalf *Cartelling* ignorance and malice, made way for the

due propagation of his moſt deſerved *fame*: And indeed in proceſs of time *Sydenham* was by *Letters* from many *eminent Phyſicians* thorow *England*, ſaluted the worthy *Improver* and *Reſtorer* of *Medicine*; As (among many others,) by *D. Brady*, *Profeſſor* of *Medicine* in the *Univerſity of Cambridge*: And by *D. Paman*, Publick *Orator* of that *Univerſity*, and *Profeſſor* of *Medicine* in *Greſham Colledge*, and by *Dr. Cole*, *Phyſician* in *Worceſter*, as may be ſeen in there *Epiſtles* emitted with his works.

And to ſhow how his Writings were received abroad, among many other teſtimonies can be given, theſe few may ſuffice; In *Ettmullerus*, the *famous Profeſſour* of the *Univerſity* of *Lipſick* his works, he is frequently made *honourable* mention of, by the Character of the *Accurate* and *Elegant Sydenham*.

And *Doleus* the chief *Phyſician* to the *Lantgrave* of *Heſs*, being to put furth his *Encyclopedeia Medica*, by an *Epiſtle* directed to *D. Sydenham*, intreated that he would give him an *Encomium* to prefix to his Book; To which he anſwered, that he was ready to give ſuch as he thought the Book after it was peruſed by him could deſerve, which delay *Doleus* being, it ſeems, a little impatient

tient of, the Book, containing also very honourable mention of *Sydenham*, was set forth with a *fictitious Elogium* under his name: Now it being alwayes precious, and not common and mean things that use to be forged or stollen, this seems not an impertinent Argument of the *Fame* and *Authority* of *Sydenham*, both with him, and whereever he might expect his Books would come.

In *France* likewayes, the worthy *D: D: Spon* Physician at *Lyons*, in his Epistle written in 1681, to the *Abbot* of *Sylvecane* does wonderfully extoll his praise; especially, his dexterity of *cureing Fevers*, which he sayes, are so constantly cured by him at *London*; that he goes under the name of the *Fever cureing Doctor*: Yet *Spon* does wonder that his *methods* are so little either there, or any other where, followed by others.

At length, even in *London* it self, time did, as it does in most other things, help to ripen and promote Truth, and settle these tumults that were raised in Mens minds & hindered its appearance, because not only a new but a contrary *method* in cureing most Diseases, and which appeared to charge the most part also with *ignorance*, and *errour*, seemed to be obtruded

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be *obtruded* on them: & no wonder that Men puffed up with *self-love*, did with difficulty swallow over such an *harsh morsel*: but the rancor being somewhat remitted, there wanted not several *ingenious* & *honest Physicians*, that did acknowledge his merite, among whom was that Famous *D: Michelthwait*, who when near death, (the time that the fume of passions being evanished, gives both a more clear *perception*, and ingenuous and sincere expression of truth,) did profess that notwithstanding of the attempts of severals against the *methods* of *Sydenham*, yet these would yet prevail and triumph over all other *methods*.

Neither wanted there another Class of *Physicians*, who tho they had no less wit and understanding, yet had much less honesty then the former; these indeed perceiving the efficacy of his *practice*, did readily imitate it themselves, but were so much *Plagiaries*, that far from acknowledging the *Author*, they were the foremost to calumniate him, & it may be his *methods* too; and least they should be taken in the *crime*, had also the *subterfuge*, either of adding some triffling thing to his inventions, or saying, they were Masters of these *methods* before he did write or publish them.

Then

Then at length, *Truth* by its native force prevailing wholy over *Error*, as *Light* doth over *Darkneſs*, by the help alſo of time, brought forth in the *year* 1688. The ſecond *Edition* of his *Schedula Monitoria*, (as the firſt *Edition* was, likewiſe under *Protection* and *Patronage* of the *worthy D: Goodal*, who had been an aſſiſtant to him in much of that Practiſe; and alſo ſealed with the *Colledge of Phyſicians* at *London*, their *Approbation* annexed to the Book: Where the *Author* delivers this new *Method* of the *Cure of Fevers*, moſt faithfully and clearly, and even that very ſame which the firſt *Edition* contained, and came forth without their *Approbation*: But it ſeems the ſhort ſpace of an year or thereby, betwixt the firſt and ſecond *Edition* of that *Schedule*, did conciliate ſo much favour to the *Author*, and the work, that they declared the ſecond *edition* and the *Method* therein contained, to be worthy and uſeful; and not pernicious; As ſome ridiculouſly affirme, preferring their private judgement taken on a *Superficial* view, and perhaps only by *Hearſay*; To the mature and *deliberate Judgement* of that *Honourable* and *learned Society*.

But the *Honeſty* and *Juſtice* of others more Eminently Diſplaying it ſelf, does elevate his Praiſe ſomewhat ſuitable

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to his desert, and give him such *Panegyricks*, as without sufficient merit in the Subject, have never been consigned to Books or Letters, by such *Wise Prudent* and *Learned* Men, as these do evidently in their late Writtings manifest themselves to be; And because *in the mouth of two or three witnesses every thing is established*, so many, whose works are now at hand with us, may therefore suffice.

D. *Morton* his *Elogium* of D. *Sydenham*,

The first is then, that Famous D. *Morton*, in his Treatise of *Pthisical Diseases* or *consumptions* lately emitted, where like another *Hercules*, he does indeed assault that *Herculean Disease*, with a Method both new and profitable: For according to that common axiome, *Qui bene distinguit bene docet*; he has most *judiciously instituted* the several *species* & *degrees* of that *disease*, according to which he has most *reasonably* instituted the *Indications*, and *cure* to be varied: And when in his *preface to the Reader*, he is proposing the several means of the *Improvement* of *Medicine*, he judges and that very rationally, that it consists alone in *practical Observations*, describing Diseases in their real and true Appearances; and therefore he chides the *sloath* of some *Physicians*, that seem

seem to bury with themselves a great *treasure of practice*, which they might have acquired: Then he concludes, saying, *if I 'were able to hold forth the renown of so great a 'Man as our* Sydenham, *I should extoll his 'name to the skyes, and set him for a noble Exam-'ple for the most experienced Practitioner to walk 'by*? For this Man, being of great Age, and 'having his *natural sagacity*, wherewith he is '*extraordinarly* endued, further polished with '*long use* and *experience*; never ceases to im-'prove and illustrate with his *Learned Writ-'ings*, the *practical part* of *Medicine*, both to 'the great comfort of the sick, and the great 'Credit and *Advantage of the Art*: And that these praises did proceed from nothing, but the very *conscience of the merit* of the Man; This Book came forth when *Sydenham* had almost bidden adieu to the world, and *Dr: Morton* was scarcely known to him by the face.

D. Harris his Elogium.

The other Testimony is of that notable *London practitioner D: Harris*, in his Book lately emitted, concerning *The acute Diseases of Children*, which containing several remarkable *Observations*, do also contain his Testimony from the page 45. unto the 51. In these words, *saying*, *after I had used* "*for some years the* like *Method* in Cure-

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" ing of Childrens *Fevers* I durſt not ven-
" ture on the ſame in adult Perſons, until I
" moſt happily met with the firſt *edition* of
" the *Monitory Schedule* of that incomparable
" Practitioner *D. Sydenham*, and finding that
" Method approven of in adult Perſons by
" the experience of that moſt Sagacious
" Man, as much overjoyed as I had gotten
" a great favour from *Heaven*, I preſently
" ſet on to try that Method in adult Per-
" ſons alſo, and found it no leſs ſucceſful
" then I had found it before in Children,
" and a little after he proceeds, ſaying,
" For his diſcovery of the Cure of *Fevers*,
" and many other his notable Im-
" provements, I hope that every Age, ſo
" long as *Medicine* ſhall flouriſh, ſhall pub-
" liſh his Name; for the great Ornament
" and Light of this Age. *Sydenham* has with
" an extraordinary Courage and Ingenui-
" ty compleated the Cure of *Fevers*, both
" by ſufficient Reaſon, and by Experi-
" ence, and Practice, concerning which,
" others have given nothing but words.

SECT.

SECT *VI.*

Containing the Opinion of ſome Authors concerning the Nature of Continual Fevers, *and the ſame from Reaſon rejected, which makes it neceſſary to inquire for a more probable one, in relation to the clearing their nature, and this Method of their Cure.*

NOw to make this *Method* every way compleat, it is convenient as was inſinuate in the beginning, after the manner that a *practical Diſcipline* ought to be treated, to eſſay, if from this *Experiment* and *Method* of Cure of *Fevers*, we can draw any *unſtrained* and *probable Theory*: Which inquiry neceſſarly preſupoſes the *Nature* and *Eſſence* of *Fevers*, ſeeming yet altogether to ly in the dark, to be narrowly ſearched into and expoſed: Having firſt *weighed* and *eventilate* what the *Ancients* and *Neotericks* has delivered concerning the Nature and Eſſence thereof.

The firſt then, and which is the *Opinion* common to moſt *Authors*, placing the *Eſſence* of a *Fever* in a *Preternatural* heat kindled in the heart, and diffuſed by the Blood

The Opinion that *Fevers* conſiſt in heat.

Blood through all the Body? indeed seems a very improper *Metaphorical* Description: For the Heart is compared unto a *Chimney*, neither is there a fewel capable of accension determined, there being no fewel in the Body proper to foment a Fire but all as liquid and aqueous contrary thereunto: And although in a *Fever* there be a great heat, the same can be made clearly to depend upon another Principle, then any thing of accension, as shall be afterwards shown: and also seing *intense Heat* is only accidental to a *Fever*, and may be absent therefrom or present therewith; It can be nothing of its *essence*, more then the rest of the *symptoms* are; for in the cold *Paroxisme* of *Intermittents* it is absent for a while, with the presence of an *Intense cold*: And in some *algid Fevers* it is always absent; yea, in *fevers* that are esteemed *malignant*, it is very mild, and nothing beyond the degree usual in health; for its reckoned commonly a sign of *malignity* when the heat does not rise proportionably with the other *Symptoms*. And farther if Heat were of the *Essence* of *Fevers*, in respect there is no distinct *Species* of Heat, but all the difference thereof is *gradual* by *Intention* or *Remission*, it must undoubtedly follow

follow that there can be no distinct *Species* of *Fevers*, but only that they are gradually different; which is against the commonly received Opinion.

As to that qualification of Heat, that it is *preternatural*: It may be obvious to any that seriously perpend the matter, that no Heat is *preternatural*. thô its cause may be said to be so: For Heat is nothing else but a *natural* and *genuine* Passion, imprinted in the sense by the presence and *energy* of a *calorifique* Efficient: Neither can it be any more said to be against Nature, then pain can be: It being most natural for pain to be raised upon the action of a *dolorifique* Efficient: And so furth, necessarly and naturally all the rest of the Passions are made by *impressions* of the object *impressing*, in the subject receiving. But that the *Speculation* of Heat must be more subtile, then to be inlightned by the common and dark explications thereof, may appear from that common *Phænomenon* of the breath, which being leisurely blown out, imprints upon rhe hand a sense of Heat when this same breath with force blown out, gives a sense of coldness thereon: this *diversification* insinuates the Impression of Heat to consist in a *modification* of the motion of the Particles,

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perhaps in a thwart, *transverse*, and tottering motion, some thing resembling *Refraction*, or *Reflection*; And that cold on the other hand is Imprinted by a direct motion: from which a true *Idea* of Heat subservient to the true explication of *Fevers*, may be perhaps clearly drawn afterwards.

Willis his Opinion of efferveſcence in *Fevers.*

Nixt follows the *opinion* of *Willis*, who reasonably rejecting that of the Ancients, placed his in a notable *efferveſcence* of the *blood & humours*: This *ingenious Philosophical Physician* doth with great fervor bend both his own Brain and the Subject, to establish a certain *efferveſcence* in the blood of the *Feverish persons*, proportionable to the *Fermentation* of Liquors: He nowayes taking notice that all the Circumstances and Conditions requisite to the *fermentation* of Liquors, are not only wanting in the generation of *Fevers*, but the contrary are present free *eventilation*, and rest of Liquors to be *fermented*, being necessary conditions: But in the blood the *eventilation* stopped, frequently is the cause and condition of *Fevers*: And furder, the *circuit motion* of the blood will hinder its *fermentation*; as it falls out in Liquors which are to be *fermented* requiring rest: Neither did any ever

see

see in the Blood of Persons in *Fevers*, any signes of *fermentation*, but rather tokens of viscosity and grosness; Signifying *coagulation*; Neither can the *Phænomena* in *Fevers*, be so commodiously explained from that *Effervescence*, as from the contrary *Coalescence*; of which afterward.

Cartesius his Opinion. There is another Opinion of *Cartesius* affirming a *Fever* to be the *Perturbate mixture* of the Blood, which description does rather darken the subject, unless he should teach us in what the *Natural mixture* did consist; And how the *Perturbation* thereof should excite a *Fever*, and the manner of the dependence of the *Phænomena* upon that *Perturbation*; And seeing he seems to insinuat a determinate *Order* and *Position*, to be naturally requisite to the Particles of the Blood, and the *Disturbance* of these to make a *Fever*; It is very difficult to understand, how the Particles of the Blood should be carried from the Heart so rapidly throw the *smal branches* of the *Artry's*, and keep that *Order*; or how they should again make up their ranks in their reflux throw the Veins back again to the Heart.

Paracelsus and Helmont As for the Opinion of *Paracelsus* making a *Fever* to be the

their Opinions. accension of *Sulphur* and *Niter* or an *Universal Excandescence* of the *Balsom* and *Mercury of life*; and that of *Helmont* making it an Imparity of one part of the *Archeus* that thereby is affected with *Wrath* and *Indignation*; Because they seem altogether *enigmatical* & vain, & bring more obscurity then light to this dark Subject, therefore we leave them both.

Next follows the Opinion of that *Hero* in *Medicine*, *Sylvius*, who has placed the *Pathognomick* signe of a *Fever* in the Pulse preternaturaly frequent, having conjoyned therewith Trouble, Pain, or the blemish of any function requisite for the felicity and ease of Life: The cause whereof, which makes to him the *Essence* of *Fevers*, is either *first* a too great and Permanent *Rarefaction* of the Blood made by a violent Heat breaking out of the *Effervescence* of the Blood? Or *secondly*, any *Acrimonius*, *Acide*, *Lixivial*, or *Muriatique* salt carried thorow the Veins, together with the Blood and gnawing the *Parenchyma* of the Heart: or *thirdly*, any *flatulent halitous* Matter brought with the Blood to the Heart, and augmenting the *expansion* thereof: *Fourthly*, any sharp or hard thing in the *Pericardium*, or other wayes externally grating upon the Heart.

This Great-Man to whom *Medecine* this day is much indebted, as being the first that clearly discovered the *Errors* and *Delusions* of the Schools, has also found out a more efficatious and sure practice in many Diseases: Yet he (there being none able for all things) has fallen into some Errors of *Theory*, about his *triumvirat* Humor, and the *effervescence* of these Humors in the *Intestines* and *Heart*; and about the motion of the *Bile* towards the Heart: All which subsequent and more acurate *anatomical Inspection* having found to be otherwayes; his *Hypothesis* of *Fevers* being established upon these, must necessarly fall: Yet these that reject this his *Theory* do imbrace his Practice in the *Cure of Fevers*.

In the last place, follows the Opinion of *Barbet*, placing a *Fever* in the *circulation* of the Blood increased; which Opinion since it seems directly contrary to what we think most probable, with the confirmation then thereof, it will necessarly of it self evanish.

SECT.

their Opinions. accenſion of *Sulphur* and *Niter* or an *Univerſal Excandeſcence* of the *Balſom* and *Mercury of life*; and that of *Helmont* making it an Imparity of one part of the *Archeus* that thereby is affected with *Wrath* and *Indignation*; Becauſe they ſeem altogether *enigmatical* & vain, & bring more obſcurity then light to this dark Subject, therefore we leave them both.

Next follows the Opinion of that *Hero* in *Medicine*, *Sylvius*, who has placed the *Pathognomick* ſigne of a *Fever* in the Pulſe preternaturaly frequent, having conjoyned therewith Trouble, Pain, or the blemiſh of any function requiſite for the felicity and eaſe of Life: The cauſe whereof, which makes to him the *Eſſence* of *Fevers*, is either *firſt* a too great and Permanent *Rarefaction* of the Blood made by a violent Heat breaking out of the *Effervescence* of the Blood? Or *ſecondly*, any *Acrimonius*, *Acide*, *Lixivial*, or *Muriatique* ſalt carried thorow the Veins, together with the Blood and gnawing the *Parenchyma* of the Heart: or *thirdly*, any *flatulent halitous* Matter brought with the Blood to the Heart, and augmenting the *expanſion* thereof: *Fourthly*, any ſharp or hard thing in the *Periecardium*, or other wayes externally grating upon the Heart.

This Great-Man to whom *Medicine* this day is much indebted, as being the first that clearly discovered the *Errors* and *Illusions* of the Schools, has also found out a more efficatious and sure practice in many Diseases: Yet he (there being none able for all things) has fallen into some Errors of *Theory*, about his *triumvirat* Humor, and the *effervescence* of these Humors in the *Intestines* and *Heart*; and about the motion of the *Bile* towards the Heart: All which subsequent and more acurate *anatomical Inspection* having found to be otherwayes; his *Hypothesis* of *Fevers* being established upon these, must necessarly fall: Yet these that reject this his *Theory* do imbrace his Practice in the *Cure of Fevers*.

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SECT.

SECT. VII.

Containing a New and Mechanical Hypotheſis *of the Eſſence of* Fevers, *with the cauſe efficient and occaſional of the frequency of the* Pulſe, *and that materiel or occaſional cauſe alſo farther Mechanically traced.*

The occaſion of theſe Errores diſcovered.

IT ſeems very probable, that all the *Phyſicians* holding the former *Opinions* have Erred, and the Fountain of all their miſtakes appears to be that *fundamental error*, as the acurate *Bontikoe* obſerves, that they took the *immediate efficient cauſe* of the motion of the heart to be the blood, and that the frequent motion thereof and the Arteries, did alwayes depend upon ſome alteration of that blood; but that this muſt be otherwayes ſeems plain, becauſe the Heart of ſome *Animals* being cut out when they are alive, and holden in the hand, will beat a long time without a drop of Blood: So the motion of the Heart ſeems not to depend on the Blood, but on ſome other cauſe, perhaps on the influx of the *animal Spirits*, proceeding from the Brain, by the remainder whereof

whereof inviſcate in the Heart, the motion ſeems to be continued after the ſeparation thereof from the Body.

The next *fundamental Error*, and obſerved likewayes by the ſame *Author*, ſeems to be, that they eſteemed the *intenſion* of Heat alwayes to depend on the rapide *efflux* or *circulation* of the Blood; and that it was both a *ſign* and *effect* thereof: The contracy of which appears by an *Inflamation* or *Tumour*, where the Member affected is vexed with a great Heat, and kind of *Fever*, which is ott times communicate to the whole Body, and here it is clear, that the Blood is rather *ſtagnant* then ſwiftly moved, and the *Fever* that is communicate from the *Inflamation*, certainly ſhewing a near *reſemblance* betwixt them, perſwades that a certain degree of *Incraſſation* from this Fountain of *Co-agulation*: And accompanied alſo with a frequent *Pulſe*, does affect the Blood, as the Ignorance then of the concurring occaſional cauſe of that *frequency* of the *Pulſe*, gave riſe to all the *Errors* about this ſubject, ſo the bringing to Light the true cauſe thereof, will make all theſe *Errors* evaniſh.

For clearing then of this, it is to be conſidered, that the Body

The Scheme of the New

hypolfices of *Fevers* laid down.

of Man being a curious *Machine* the motion wherewith it is endued, like other *Machines* as it has an efficient cauſe, ſo it has a final cauſe thereof; And in reſpect the final cauſe is alwayes the reaſon of placing the efficient cauſe, and that the *Idea* thereof is ſtill in the mind of the *Architeck* before the *Idea* of the efficient; This makes the *Idea* of the efficient to be alwayes ſhaped ſubſervient to the *Idea* of the final Cauſe; And muſt alſo make the ſtructure of the efficient in the *Fabrick* of the *machine* to be moulded to that final Cauſe likewiſe, & inſtructed & qualified Suitable to attain the end of the motion, that is to ſay, that it may have a faculty of *Intenſion* and *Remiſſion* to be regulate and moderate according to the exigence and neceſſity of the final, to be productive of the end of its being put there; At leaſt in ſo far as the Contrivance of a *Mechaniſm* will go: As in a Watch whoſe *Spring* is ſo contrived that it may be Bended or Slackned for attaining the end of its motion. And it ſeems alſo probable that in every motion in Nature, its only the *end* that both puts the *Efficient*, and ſets it a going; and therefore it muſt be ſtill by that end, that the motion muſt be regulate, Hightned or diminiſhed:

As

As it is seen when *Mariners* do exercise the *Pump* of the *Ship*, its alwayes with respect to the breaking in of *Water* at the *Leaks*; Which being in great quantity does excite to frequent and vigorous Pumping to save the *Ship*.

Much after the same manner it seemes probable that this *motion* of the *Heart* which is nothing but a *Pump* designed to lay in the alimentitious Juice, and so has for its end a proportionable proportional reparation of the functions and parts suitable to their *Consumption* and *Waste*; And that by the sending to them throw the *Channels* of the *Arteries* the arterial Blood, which is to be dispersed in such quantity and time, as may answer to the reparation of their *Consumption* and *Waste*; The Body consisting, which seemes to deny it all consistance, in a continual *Flux*, and succession of new parts coming in place of the old that are wasted, like a *River* which has nothing *Identitious* but the *Channel*: And so this final cause would seem to require an efficient whither that be the *first Impellent*, the *Archeus* or *Spirits* indued with a capacity and aptitude not only to continue, but also to incite and quicken this motion according to the exigence of the final, as when the Intervention

tervention of any *ſtops* or *Impediments* of the motions of the Blood does Interveen, to overcome which its neceſſarie that the *efficient* of the motion be *bended* to Superate theſe *ſtops* and gain tis *end*, then it muſt neceſſarly double its Force and Stroaks? Otherwayes every light Impediment or Obſtacle which were equivalent to, and of *equal moment*, and Force with, the moderate and odinare career of the motion of the Blood would put a *ſtop* thereto: And indeed there is in a *River* ſomething of a reſemblance of this faculty, thô from an other kind of *efficient*, yet for the ſame or the like end; For any Impediments put to barr or dam up a *River* are ſoon *overpoiſed* by the ſwelling Force of the *Water* above them, till in proportion it overcome the ſtrength of the ſtop: Now if it were otherwiſe, every Impediment equivalent only to the preſent current of the *River*, either put by *Accident*, or *Deſigne* would interrupt their courſe, to the great hurt of Mankind, and the blemiſh of the Worlds fabrick.

Seing then the returnes of *Reparation* to the parts and *functions* ought to be made, both in time and quantity in proportion to the waſte, by the efflux of the Arterial Blood from the Heart as the *vehicle*, and thorow

thorow the *arterys*, as the *conduites* of these recruites; When this is done *vegetlie*, *integrally*, without any stop or delay, then redounds *felicity*, *ease*, and *integrity*, of the *functions* and *life*: But when that *efflux* is retarded or stopt, either by reason of the Blood it self, or some stopage in the extremities and small channels of the vessels; or by reason of immoderate and unusual waste beyond the proportion of the ordinary supply, (as falls out in immoderate exercise and motion;) And, so I say, when by reason of any of these causes, the heart cannot convey and lay in the desired suppliment in due proportion and timeously, by stroaks repeated at the usual intervals, then it does, by precipitating the stroaks, and straiting the intervals of the *pulsations*, endeavour, what in it lyes, to overcome the slowness of the motion of the Blood, & to come so near as it can to the due and proportional distribution of *nutriment*, in respect of the waste: But if, notwithstanding of these *sedulous endeavours* of the heart by the redoubling of the *pulsations*, that slowness of the Blood, shall by a gradual encrease of the thickness, and of obstructions in the *capillary vessels*, prove yet so obstinate as still to be augmented, then this

this leads ſtraight to the porch and gate of Death; Death being nothing elſe but a total and permanent ceſſation, and defect of this diſtribution.

An objection againſt this *Hypotheſis* anſwered.

If there remain yet any difficulty to comprehend this *Scheme*, becauſe this incitation of the *pulſe*, being only a natural action, and proper to the *Animal part*, thus circumſtantiate, is made too like an effect of Reaſon, and ſavours too much the acting for an end, or of a voluntary motion, to be applicable here: To anſwer this reaſonable doubt, ſince it is very plain that *Nature* in the *ſtructure* of the outward parts of *Animals* has acted ſo much Reaſon and Deſign, as importing clearly that the *Idea* of their end has regulate their *fabrick*; has alſo made the ſtructure of all their parts terminate into ſuch a perfection of the *Animal*, that the moſt rigide ſurvey can find nothing wanting: As is moſt ingeniouſly diſplayed by the Honourable and Learned *Boyle*, in his Treatiſe of the *Final Cauſes of natural things*: Why ſhould not the ſame *Architect* alſo have inſtructed the *Function* and *inward parts* with *faculties* to be exerted leſs or more, according to the particular exigence of the *Animal*; But eſpecially

especially that *radical* and *fundamental* one of supplying all the rest with sufficient provision and nourishment; that it should be endued with a *faculty* to accelerate, when the nourishment either by its fault or immoderate waste, is more then it ought, in its Returns, delayed: Otherwayes every light cause that did retard the *accession* of *reparation* or did waste it much beyond the *ordinary recruite*; would soon precipitate the *Animal* into inevitable ruine.

And also, seing most *Animals* are endued with swiftnes beyond their ordinary pace, whereby they flee dangers; why should they not be endued with the like inward faculty, to escape dangers internal that frequently threaten them. And indeed all these efforts which we call from Irritation giving a Resemblance of such a faculty as this, argue as much reason and acting for an end as this, that's here laid down does; For the Impression made in the place, being resented in the Brain the Fountain of Sense and motion; the Irritation or endeavour to be rid of the offending cause has its effects in the place first invaded or beset: and why should not the starving of the parts as much *querelous* as the *surcharge* of them is, be as well heard, and have also its releif; so far at their least, as motion can help them. And

And there is yet a clearer reſemblance of ſuch a natural Action as this to be ſeen in the *Pupil* of the Eye, which without conſent of the will Contracts and delates it ſelf ſo much as is needful for the comodity of ſeeing, *viz.* Dilating where there is too little Light to let in more, and convey the *Species* into the Eye; and Contracting when there is too much Light, and letting in only ſo much Light, as is neceſſary to Paint the *Species* in the Eye.

And althô there is a *Phænomenon* and caſe in *Fevers* which ſeems to oppugne this *Hipotheſis*, yet it is hoped that the ſame being duely conſidered, will rather confirm and clear it and the Caſe is this, in ſome *Fevers* the Pulſe is not altered as to the frequency or Vigour yet theſe portend great & imminent danger: which *Phænomenon* or ſlowneſs of the Pulſe comes from this, that althô the final Cauſe of its motion be here craving enough of the acceleration of the Pulſe for reparation in proportion to the waſte, yet it ſeems the efficient or Impellent of this motion or the firſt ſpring thereof that ſhould anſwer exactly the exegencies of the final; Is either ſtupified, attacqued, or befettered; and ſo there is no ſtrugle or eſſay to overcome the

Another deficulty ſolved

the Impediments, and Supply proportionably the waſte: And as this caſe is of all *Fevers* the moſt dangerous, commonly giving the name of *malignant*, ſo it brings the œconomie, for the moſt part, ſoon to diſſolution.

To unfold yet further this *paradoxical Hypotheſis*, if any deſire to know upon what neareſt and immediate cauſe this *ſlowneſs* of the *motion* of the *arterial blood*, or delay of Reparation which excites the *pulſe* to *acceleration* does depend; unto this not impertinent inquiry that an appoſite anſwer may be made; it is to be adverted, that the *blood* is made up of innumerable little *globules* ſwiming in a *limpide* watery *ſerum*: As, being obſerved by *Lœwenhoek*, with help of the *microſcop*, is alſo delivered and deſcribed by him: and as its very probable that theſe *Globules* do naturally require to be of ſuch a *bulk*, *figure* and *number*, and the *ſeroſity* wherein theſe ſwim, doth alſo require to be of ſuch tenuity and quantity, as may beſt facilitate the *motion* and courſe of the Blood throw the ſmall *channels* and *conduites* betwixt the *Arteries* & *veins*: In which paſſage for the moſt part it depoſitates its *nutritious parts*, or *particles*: So it is very probable that *ſlowneſs* of the *bloods motion*,

tion, to overcome which the heart excites frequent *pulses*; doth for the most part proceed either from the *number* or *magnitude* of these *Globules* augmented, or some viriation of their *spherical figure*, as their *scabricity*, and the like; Or further, thorow the *viscidity* of the *serum* into which as a vehicle they swim, and are carried: And thô from any of these alone this *slowness of the blood* may clearly proceed, yet it is certain that the *ingemination* and *complication* of these causes, rendring the grosness of the Blood more intense; may also render the *slowness* of its *motion* more contumacious.

To conclude then, as by this *scheme* here laid down, seemes indeed may be given pretty clearly, both a rational discovery, & a *Mechanical solution* of the nature & *phenomena of Fevers*; so it appears that former *explications* thereof, having raised so many *fumy effervescences*, and *turbid fermentations* concerning them, could never yet bring the matter to a *digested*, *pellucide*, and *defecat* conclusion but having clouded the eyes with the mist of *airy phantasmes*, still left the mind *boiling* and *working* in the tumult of *commotion*, *doubt* and *difficulty*.

SECT.

SECT. VIII.

Shewing that the Heat in Fevers is the Effect of the slow Motion of the Blood: And how Heat is made, & may be consistent with that slowness.

SInce by what is said the rapid *Circulation* of the Blood in *Fevers* seems to be overturned; And that the rapid motion thereof was the only *adequate Reason* commonly given, to solve the *Phænomenon* of Heat in *Fevers*; Because swift and violent motions used often times to produce Heat in Bodies: althô we perceive motion to produce Heat in no bodys; but where it is acompanied with *grating* and *grinding* of hard & solid parts on upon another; but never in fluids; and so we find the violent motion of the Body produces Heat therein by the attrition which the *Muscules* make on themselves, and the adjacent parts: Which also produces a thickness of the Blood, and in consequence slackens its motion: It remains to inquire to what parent this off spring of *Intens* and *Feverish* Heat can be most properly legitimate: The inquiry into this *Phænomenon* may not only discover how Heat is made, but will perhaps also further establish the

Hipothesis

Hipothesis of *Fevers* already laid down: For if we take a view, and find that all these things which as external causes bring Imoderate Heat, that the same do bring on a pace with them *thickness* and *crassness* of the Blood; Which is necessarly followed with the slowness of its motion; And so to supply the parts with proportionable reparation suitable to the waste that is made, the *Acceleration* is *stimulated*, and frequent pulses are excited, in proportion to that thickness and slowness of the Blood: as it falls out in *vehement motions of Body* and *Minde*; Great and long heat of the *Sun*, and *fire*; the excessive abuse of strong Liquors, and in *perspiration* impeded, *&c.*

In the *vehement motion* of the Body, beside the above mentioned *grateing* of the *muscles* upon one another, and upon the parts adjacent exciting heat, there is also such a *waste* of *spirits* and *particles* of the *Blood* and *humours* which in motion do exhale, that, to make proportionable supply and *refocillation* with the *arterial blood*, the heart is made to mend its pace; As also that *copious eruption* of *exhalations*, which sometimes comes to the degree of *sweat*, leaving the Blood, and Humors more gross and thickned, must necessarily also increase the *slowness*

ness of its *motion*, which therefore crave greater and repeated force to *squeeze* it forward into these narrow *Channels*: And so from all these circumstances, in violent motion there is raised a *paroxisme* as to Heat and Pulse altogether resembling a *Fever*: Which is much after the same manner also produced by all the rest of external causes exciting Heat; but with this difference, that the Heat coming from the abuse of *Spirituous* Liquors (as apears by the Spirit of Wine, which being pouted upon *Blood* doth immediately co-agulate the same) comes from their immediate incrassating and co-agulating effect upon the *Blood*: Which *Incrassation* has likewayes and for the same cause, that *stimulating* effect upon the Heart. And how stopt perspiration produces Heat shall be in its due place shown.

Whence we may conclude, that all *Intense* Heat grivous to the Body, is the genuin effect of the grosness of the Blood; as it is clear by the *contemplation* of the Community of the *Causes*, and the Community of the *Phœnomena* Natural and Practical belonging to both, and shall afterward more fully be shown.

Having thus far premised, It remains to clear how this *Thickness* and *Grossness* of the

Blood produces alſo *intenſe Heat:* And that the ſame Heat does not eſtabliſh, but rather evert both the *Effervesſence* of the Blood and the ſwiftneſs of that motion thereof, by ſome called the *circulation*, and by others the *circuit* of the *Blood.*

In proſecution whereof, it is to be noticed, that in the natural ſtate of Health, the Heat is more ſtrong and veget, then in the valetudinary ſtate, where it is fretting and with trouble felt: For in the ſtate of Health the *Rayes* of Heat (now whither or not theſe be thickly compacted together *troops* of *Spirits* it ſeems not worth the while to contend) theſe *Rayes* (I ſay) do chearfully and pleaſantly glide with the *arterial Blood* throw the Channels of the Arteries, in a fluid, ſequacious and yeilding enough; and by paſſages open ſufficiently, toward all the *Bowels*, *Organs*, and *Habit* of the Body; for their *refoccilation*, in which for the moſt part they are conſumed: And ſo from the continual *efflux* of theſe *Rayes* chearfully accomplſhed, does reſult the *felicity* and *eaſe* of Life, and integrity of the functions of the *OEconomy.*

But in the ſtate of ſickneſs, and cheifly in the *heat* of *Fevers*, theſe *rayes* or Companies of *Spirits* flowing throw a *viſcuous* &

Craſſ

Crass medium, such as the arterial Blood then is, and also approaching the narrow Channels of the arteries partly obstructed and partly beset with *scabricity* by means of this *viscous* Blood; these *rayes* (I say) must undoubtedly, in there passage throw that viscid and unequal *Medium*, suffer *refraction*; And in their approach to the extremities of the arteries thus obstructed or vitiated they must suffer *Reflection* or *Collision*: Such *modifications* then of the *rayes* of *heat* seeme likely to produce the same effect on the sense, that the like *modifications* of the *rayes* of Light and of Sight do: It being known that the diversity or inequality of the *medium* throw which these pass, and by which they are *refracted*; Or the variety of the *superficial textures* on which these inciding, are therefrom also *reflected*; doth occasion *Impressions* on the organe of Sight, whereby the object is represented either some way *depraved* or greater, or more *multiplied*, then it would be represented without such *refractions* or *reflections*: So it seems not very Improbable, that the *rayes* of *Heat* passing throw the *medium* of crass unequal and not sufficiently *Diaphanous Blood*, that they should be several wayes *refracted*, and so coming to the *Organe* of feeling, that is, the *nerves*

diſperſed every where throw the Body, that therefore they ſhould imprint therein a greater ſenſe of *Heat* then uſual: Or otherwayes by *reflection*, which comes to the ſame purpoſe, as when theſe *rayes* are darted throw the *trunes* of the *Arteries*, & incid upon the ſmall Channels obſtructed either in whole or in part by this craſs Blood, they muſt neceſſarly, being reflected ſeveral ways *impinge* on the *Nervs* the ſenſorie of *Heat*; and affect them with more *brisk twitches* then if they did glide ſmoothly along the *trunks*, and by open paſſages were diſperſed, and exhauſted in there deſigned ends.

And that the ſenſe of *intenſe heat* is made much after the ſame manner, ſeems clear by the *Inſtance* mentioned before, to witt when the *breath* is with a wide mouth ſlowly exhaled, it gives the ſenſe of *heat* upon the hand; Becaule the Particles of the *breath* are not caried ſtreight and directly forward, but being diſperſed by an *Oblique tranſvorſe* and *recoilling* motion, they undergo a *Modification* much reſembling *refraction*. And coming ſo modified to the nerves of the hand, imprint thereon the ſenſe of *heat* when theſe very ſame Particles flowing out forcibly, give no ſenſe of Heat, but of Cold: The Particles being ſtraight and direct in their motion undergo no ſuch *modifications*.

SECT

SECT. IX.

Shewing that Fevers *being treaced up to their Fountain.* viz. *The outward cauſes, in that queſt this groſſueſs of the Blood and Humors preſents it ſelf. Where* inſenſible Perſpiration *is touched, and how much the ſame leſed contributes the generation of* Fevers. *And how indigeſtion of the* Stomach *is alſo acceſſory thereto, with a new* Hypotheſis *of digeſtion propoſed.*

TO comprehend more fully and clearly this darke ſubject of *Fevers*, its neceſſary to trace the ſame up to the very fountain and ſpring, according to the *Concatenation* of cauſes and effects, which terminate in that production called a *Fever*; And whoſe preſence is teſtified by all the various *Phænomena*, that as *Irradiations* & *beames* are darted therefrom: Now if in this *Inquiſition* we find all ſuch cauſes concurring and *concatenat* as produce that thickneſs and groſneſs of the Blood, and that theſe *Phænomena* can be nowayes ſo comodiouſly reſolved; As by there being made likwiſe depending on that groſneſs and the product thereof: and alſo that the *Practical Phænomena* of *Hurts-*

ers and *Helpers* have their immediate effect, in respect of this grosness or what depends alwayes thereon, the flowness of the Blood; then with a certainty litle below a *demonstration*, we may conclude according to the alleadged *Hipothesis*.

Here then the *Procatartick* and external causes, as first in operation deserve the first consideration; Such are errours about the *six things* commonly called not *Natural*, viz. *Air*, *Aliment*, *Motion* and *Rest*, *Sleeping* and *Watching*, *Excretion* and *Retention*, and *Passions of the mind*: For the errours about some of these using to generate, and about others of them to retain and accumulate, *crudities* Peice meal which serve for the *antecedent* or *potential* cause of a disease; and this *antecedent* cause gradually by its own tendency, and sometimes more quickly by some great error superveining favoring this or that disease; Is acuate and formed into the *continent cause* or very *essence* of the disease it self.

Insensible Perspiration.

And even as the life of Man thorow Infirmitie and Misfortune is incumbred and involved in manifold straits difficulties, and sometimes necessities, whereby he must transgress the measure and bounds and

and run into the exceſs or defects, of the uſe of theſe *things*; Which would ſurely make his life both very miſerable, and without any comfort; but that it would likewiſe be very ſhort: Were it not that the bountiful *architect*, giveing as well an evidence of *Providence* and *Art* as of *Commiſeration*, and tenderneſs has contrived theſe *bodies* exceedingly commodious in the multiplicity and convenient ſituation of *excretory* paſſages, by which the noxious matter accumulate being expelled, the errours hapening about theſe none *natural things* might be amended; and that not only throw the Gutts and Bladder, theſe ſenſible and patent wayes, (ſerving alſo ſometimes for extraordinary turns as well as for their ordinary and natural Excretions;) but by another indeed moſt oculr, and obſcure; yet no leſs certain and obvious to the mind and reaſon, and more adequat and oftner ſerving, to theſe extraordinary, thô neceſſary Excretions: And that is *inſenſible Perſpiration*, which ſends forth continually throw the Pores of the whole Skin ſuch a quantity of *excrementitious Rayes*, as does twiſe exceed all other ſenſible Evacuations; and is the Excrements of the third and laſt *Concoction*.
And indeed ſuch a wonderful work of Na-

ture should by lurking always not have had as much *certainty & evidence* as it demonstrats *sagacity* and *providence*; and so the Ignorance of Men should have intercepted, & smothered their *admiration* and *gratitude*; if themost ingenius *Sanctorious a Sanctorio Physician & Professor* of *Padua*, by *divine Influence* had not above all exception demonstrat to the world the reality, necessity, and measure, together with Rules for the regulation, of this *Perspiration insensible*: After whom for Fourty Years almost now since elapsed, Mortals have so much forgot themselves, that they have not only neglected (in so far as I know) to improve this Doctrine delivered by him (perhaps tending more to the conservation and also to the recovety of *Health*, then all other means whatsomever *preservative* or *curative*) but also to receive or make any Benefit or Fruit of his Industry and Discovery: Except what the most acure *Bellinus Physician* and *Professor* of *Pisa*, and *Ettmullerus Professor* in *Lypsick*, have observed of it. And indeed that most acurate and piercing wit *Sanctorious*, delivers all his Observations approven to the eve by the *Ballance*; for having weighed the Body and all the aliment taken, in 24 Hours time, the next Morning, he again weighes the Body

Body before the *Excretiones* ſenſible of Belly and Bladder, and after the evacuations does the ſame again, and the difference betwixt theſe two laſt weights goes to make the weight of the Excrements, which is much within the weight of the aliement taken in, the weight of the Body remaining the ſame it was the former day: As for example, Suppoſe the weight of the whole aliment be 8 pound, the next morning the Body being weighed before and after evacuation of the Belly and Urine, the difference making the weight of the Excrements may be about 3 pound: The reſt of the 8, being 5, evaporating by inſenſible Perſpiration: But in this computation ſome conſideration is to be had to the Urine *excerned* the former day, which in ſober People is little, & for the moſt part the *recrements* of the Liquors taken in the third day before, & as that moſt exact obſerver by thirty years Experience found the buſineſs ſo or ſo to hold in the ſtate and continuation of health; it was likewiſe very obvious unto him, & may be ſo too unto any conſidering perſon ſeriouſly pondering the mater that this *ſubtile, inſenſible*, & becauſe little noticed often times *vitiated evacuation*, when

altho but in part, any long time leſed, that it muſt, heaping up copious *morbifique matter*, ſow the ſeeds and become the fewel of manifold Diſeaſes; which any ſlender and *diſpoſitive cauſe* may ſoon precipitate into the *continent* and *immediate cauſe* of a *Diſeaſe*: Therefore that *ſagacious Man* obſerves from *ſtatical Experience*, that the foreſeeing of the approach of *Diſeaſes* is more certain and timeous, by the obſervation of the *perſpiration*, then from the *Leſions*, of the *Actions*.

The due expulſion of this perſpirable matter depends upon the integrity of all the *concurring cauſes* thereof, whither *efficient*, *material*, or *inſtrumental*: And as an *efficient* here (beſide the *firſt impellent* the common *efficient* of all the motions of the Body) the Air by its *elaſticity* and *expanſive* power ſeems to have no ſmall influence thereupon, for the Air being in the act of inſpiration drawen into the *lungs*, and the *veſicles* thereof filled thereby, by the *Heat* of the *lungs* it is alſo *rarefied*, and thereby requiring a greater room, does alſo by its force diſtend theſe *veſicles*; whoſe ſtructure being with a narrow entry and large cavity, the Air therein contained and in expiration compreſſed, is not all in pro-

proportion to that compreſſion expelled at the *orifice* of the *veſicle*; but ſome thereof muſt be forced alſo into the ſmal branches of the *pulmonick veſſels*; & be mixed with the *Blood* in the *pulmonick vein* returning to the heart; and this air being once gotten into the capillar Veins of theſe *pulmonick Veſſels* by the continual *expanſion* and *contraction* of the *Lungs* throw which theſe *Veſſels* are interſperſed; that air is preſſed and driven on with the Blood towards the greater trunks of that Vein: For the motion therein being made from a leſſer cavity unto a greater; is by that ſtructure of the Organ more eaſie; and the Bloods advance facilitated and its regreſs hindered: So that by the motion of the *Lungs* alone, and without any Pulſes; it is not only thus carried to the left ventricle of the Heart; but receives its whole complement and perfection in the progreſs, by the continual agitation of the *Lungs*, which do *attenuat* and *grind* and moſt *intimately commix* it with the air, as appears by the Blood in that *Pulmonick Vein*, which has its colour more *florid* and is it ſelf more *ſpumoſe*, and *rarified* then before its ingreſs in the *Lungs*, and that alone by the Airs *congreſs* and *agitation* therewith. And further, the mixture of the Air with the arte-

arterial Blood is clear, by that Experiment of *Mayow*, *Page* 144, who putting *venal* Blood into the *pneumatick engine*, and pumping of the Air therefrom found it made only a ſmall *ebulition:* But having uſed *arterial blood* ſo, it made a wonderful *expanſion* and *boiled* up into a great deal of *ſpumoſity*, and that by reaſon of the great Quantity of Air contained therein, which *expanding* upon the weakning the preſſure of the *ambient Air*, does dilate it ſelf, and the Blood in which it is *inviſcate* in proportion to the preſſure of the *Air* that remained after the Pumping. And further the ingreſs of the Air into, and mixture thereof with the blood, is clear by this *phænomenon*, that the *ſuperfice* and *extremities* of the body, become *tumified* when the body is heated by *motion*; for then there are ordinarly more frequent and greater *inſpirations* of *Air* into the *Lungs*, which the violent motion of the Body diſperſes thorow the ſeveral Members. As alſo, the ſame is made further evident, becauſe the *Hypotheſis* gives only the clear ſolution how the skine riſes upon the application of *cuping glaſſes*, for the Air within the Body finding the Air within the Glaſs, not of equal reſiſtance, doth by its *elaſticity* expand it ſelf and raiſe the fleſh there

therewith. And moreover the Airs influence and activity for promoving of *perſpiration* as an *efficient*, is plain, by the above-mentioned *experiment* of *Mayow*, for the *arterial blood* appears turgid with ſuch *aerious particles*, becauſe theſe by their *volatility* ſerve to ſweep off the *perſpirable matter*: And further, that ſame blood exhauſted and ſtripp't off theſe *aerious particles*, is by the Veins carried back to the *Lungs*, to be of new *impregnate* therewith. And likewiſe, the Neceſſity and Utility of the Aires *ſweeping* and *ſifting* thorow the Body, by its entry at the Lungs and going throw the *Arteries*, and out again at the *pores* diſperſe devery where throw the *ſuperfice* of the Body; appears from this as *Helmont* obſerves *tractat de blas hum.* that *heat* alone is not ſufficient to expel all theſe *recrements* that are in the Blood and Body; For *Heat* in its operation, as in *deſtellation* leaves alwayes a great *remander* or *caput mortuum*: Yea, as Boil obſerves in the *origin* of *formes* the moſt *limpide rain water* being a hundred times rediſtilled leaves alwayes ſome *Earthy* and *fixed recrements*, that can be altered by no vehemency of fire, ſo that to *eliminate* and expell this *perſpirable matter*, without *recrements*; beſide the action of heat

heat, there is further required ſome other *proper volatiliſing efficient*, which the *Air* may be clearly judged to be: For as *Helmont* and *Tachenius* obſerves, timber putrifying in the free *Air* gives by *calcining* little or no *fixed Salt*: And dry Herbs give far leſs quantity thereof, then green Herbes do; For this reaſon, that the *Air* being the *proper menſtruum* of that *Salt*; Yea even of the ſame *Salt* within our Body does diſſolve & extract it. And likewiſe the influence that *pure Air* has upon our Bodies, and which is obſerved by *Helmont*, muſt be alſo from this reaſon; For in *ſerene* and cold *Air* we eat and digeſt better Becauſe that *Air* not being Saturat with *fuliginous* and *noxious* Particles; In running its courſe throw the Body, ſweeps out powerfully the *perſpirable matter*, and for the like reaſon theſe that Sail long on the Sea, eat very much and have fewer *ſenſible excrements* then otherwayes: Becauſe the continual and ſwift motion of the Body not only promoves *digeſtion* and *diſtribution* of the aliement (as will be ſhown afterward) but alſo promoves *perſpiration*, by the continual *agitation* and *ſhaking* of the Body; Which looſes any of the Particles of the *perſpirable matter* that incline to ſtick in the *paſſages* and *pores*, and ſo the *Air* more eaſily ſweeps off that

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perſpirable matter. And alſo, (as our *worthy Author Sydenham* obſerves) long riding has the ſame effect and it may be thought for the ſame reaſon, and the effects of both theſe motions, are likewiſe obſerved by *Sanctorius*, in his *Aphoriſmes*, *Sect* 7. where he ſhews that ryding reſpects moſt the *expulſion* of the *perſpirable matter* above the *Loynes*: And that *ambling* is moſt wholſome, but *trotting* unwholſome: and that the being long carried in *a Boat* or in *a Litter* is alſo moſt wholſome as diſpoſing to *perſpiration.*

It follows next to be ſhown that the due *expulſion* of this *perſpirable matter* ſeems further to depend upon the *integrity* of the *inſtrumental*, *materiall* and *neareſt cauſes* thereof, ſuch as, The ſtrength and firmneſs of the *Fibers* and *Glands* of the skine, The convenient *aperture* of theſe *paſſages* and *pores* thorow which it muſt go. And laſtly, the ſufficient *tenuity* and *ſequacity* of that *perſpirable matter.* But what things help or hurt here, will be too great a Digreſſion to mention, ſeeing the Author *Sanctorius* may be conſulted concerning it himſelf; and becauſe that very uſeful Treatiſe is ſcarce to be had; we have therefore placed down after all, a *ſelect parcel* of his *Statical Aphoriſms*: It remains then only now to ſhew, that

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one or more of theſe requiſites to *perſpiration* being vitiated; that *perſpirable Matter* may be retained and accumulate about the borders of the *capillary* veſſels; until by its burden and bulk it provok the *Fibers* to its *expulſion* by ſweat, all ſweat eſpecially giving eaſe coming from a great and undue collection of *perſpirable Matter*, ſeems therefore never to be a Natural Excretion, or to have place or uſe in perfect Health, and is only profitable in ſo far as it ſhuns a greater evil, and carries the ſame reſpect to the *Excrements* of the third *concoction*, that a *Flux* of the Belly does to theſe of the firſt or ſecond; and thoſe that ſweat moſt, perſpire leaſt in the Natural order & manner, as *Sanctorius* ſhews *Aphoriſ. Sect.* 1. That *Sweating* is not good, becauſe it abates the ſtrength of the *Fibers*, yet ſeing it diverts a worſe evil, it may be called reſpectively good.

But if *Nature*, either out of Sluggiſhneſs or Weakneſs, do not provide againſt the retention of this *perſpirable Matter* by *Sweat* or ſome otherwayes, it being ſtill farther accumulate threatens a Diſeaſe, and very often a *Fever*, after this manner; for this *perſpirable Matter* retained, being wholly *excrementitious* and unapt to be indued with

Spirits

Spirits degenerates into *viſcoſity*, and it may be into *Purulency*: and lying into the confines of the *Veines*, among the fibres of the Fleſh, which being irritated by its bulk and uſeleſſneſs, do wring it out into the *Channells* of theſe *Veines*: And ſo being eaſily abſorbed by the refluent Blood, it infects by its *viſcidity* and *Purulency* the *Particles* and *globuls* of the Blood; Increaſſing there *bigneſs* and vitiatng there *Spherical* figure: Which Blood thus vitiat, being carried back to the Heart by the *Veines*, and from it into the *Arteries* to be diſperſed throw the whole Body, is with much difficulty admitted into the ſmall *capillary veſſels*, by reaſon of the diſproportion of theſe *globuls* unto the conduites, or their *ſcabricity*; making their paſſage difficult: ſo that the heart is forced to double its pulſes to drive on the Blood, to ſupply the craving parts with their due nouriſhment. And albeit oftentimes the heart doth by this aſſiduous labour overcome theſe obſtructions, (for the *vigorous agitation* of the Blood, and of theſe *globuls* upon an another, doth ſo attenuate and poliſh them, that they are made to paſs without ſticking, and ſo many thereof as are not redintegrable, as *perſpirable matter* are expelled:) Yet ſometimes theſe obſtructions by their obſtinacy

from the copious Retention and the continual Acceſſion of *perſpirable Matter*, may not only elude theſe ſtrenuous endeavours of the Heart, but alſo be ſo encreaſed, that, ſterving all the Functions, they may overwhelm the *OEconomie*, and put a total and permanent ſtop to the motion of the Blood; which really and formally makes extinction of Life.

Now that the Progreſs and Pedigree of a *Fever* may be after this manner, is much more probable, becauſe it is very conſonant to the Sentiment of *Sanctorius*, who in the firſt *Section* of his *Aphoriſms*, declares, That, *the perſpirable Matter retained, neither being diſcuſſed by Nature nor by a* Fever *ſuperveening, preſently diſpoſes the Body to a* Malignant Fever: By the which may be underſtood a *Fever* of the *higheſt degree*; that depends upon contumacious Obſtructions, and is extraordinary dangerous: And in the next *Aphoriſme*, he ſayes, *Such as are in* Fevers *grow worſe and worſe if their* perſpiration *be diverted by exceſſive applications of* Medicines *from an* unskilful Phyſician.

And ſo ſeems to be acted the firſt *ſcene* of a *fever*, which ſeldom proves *tragical*, unleſs by a *prepoſterous officiouſneſs*: For by the ſtrength of Nature alone, or by ſome little Art,

viz.

viz. By *Sweating*, *Bleeding*, and other eaſie means, it is for the moſt part brought to an happy concluſion.

Unleſs, which very oft falls out, a *Maſs* of *crude Matter* generated from the Errors in the other Non-natural things, and lodged in the firſt wayes, as the *Ventricle*, *Inteſtines*, *Meſeraick Veins*, becoming (as it is very apt to do) a *fewel* to this Diſeaſe make it both long and dangerous: Now this *Crude Matter* ſeems to be nothing elſe but the *Recrements* of the imperfect & perfunctorious *Digeſtion* of the Stomack and other Bowels: the ſearch therefore into the cauſe of ſuch *Recrements* amaſſed up, directly lead us in relation to the diſcovery, firſt to make inquiry how perfect and natural *Digeſtion* is made.

A mechanical *Hypotheſis of Digeſtion.*

Then paſſing over the commonly received *Fermentation* the Aliments in the Stomack, which ſeems juſtly to be rejected here for the ſame Reaſon that *Effervеſcence* is repudiat in *Fevers*, this operation not only ſucceeding always without *Eventilation* or *Reſt*, the requiſites to *Fermentation*, but altogether refuſing them: And ſo this action of the Stomack ſeeming much more intelligible to be made Mechanical, does rather

conſiſt in a *grinding* or *attenuation* of the Aliments, by which they are made *chyle*, for the requiſites to compleatly expede *Digeſtion* are firſt the *contraction* of the *Ventricle*, and cloſs embracing ot the contained Aliment: and next the gentle and continual compreſſive *rowling* of the Aliment already cloſs embraced by the *Stomack*; and that by the continual motion of the *Diaphragma* depreſſing it, and the motion of the *abdomen* again repreſſing it: Which motions reciprocally coming and going upon the *Aliment* cloſe Imbraced in the *Stomach*, may be thought to have upon it the like *mellowing* effect that the rowling of the hand upon an Aple or other fruit alwayes has; and that by the continual *attrition* the *Particles* of the *Aliment* have upon one another, they are mellowed into Chyle. And further what may be the Joint effect of the *Stomacks* Imbracing and Contracting it ſelf cloſs upon the *Aliment* to promove this *attrition* of the *Particles*, will further appear, by the conſideration of the effect of *Monſieure Papines digeſter*, by which bones are ſoftned, with no other *artifice* but by the *veſſel ſo contrived*, that it Imbraces the contained matter with compreſſion upon all ſides; by which theſe *Stems* & *Vapors*, which

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in ordinary boiling breake out, being Imprisoned, do make their *Rambles* throw the whole contained matter, and give such *twitches* thereon, that they do so far attenuate the Bones as to make *Jellie* of them.

Now beside this *compression* aud *rowling* of the Aliment contained in the *S*tomack by the *Diaphragma* and *abdomen* the chief Instruments to make the *Chyle*, the powring in of certain Liquors from the *Glands*, to macerate the Aliment, seems likewise to cooperate to the same purpose: As also the continual *influx* of *Spirits* by the great *Nerves* that comes to the Stomack, seems as well the promovers of that intestine motion bringing first *Attrition*, next *Concoction*, as they are Authors of other admirable actions in the Body done by their stupenduous *Elasticity*, such as the motion of the Muscles. And beside all these, there seems to contribute likewise to the *Concoction* of the Aliments, there being impregnat with *Aereous Particles*, while they are chewed in the mouth, these also serving to subtilize and rarifie them: And for this use the *Wind-bladder* in Fishes which is alwayes filled with air, has a Conduite to their *ventricle*, as is observed by *Needham*: And for this reason also it may be, that serene

and clear air does contribute exceedingly both to Appetite and Digestion: And the Meat thus impregnat with the air coming to the Stomack is the fitter to be acted upon, and volatized by the Spirits, which also are of an aereal nature, and the Spirits influence to *Concoction* is plain by this, that these that are affected with Intense Grief and Sadness, or indulge anxiety and thought fulness, by which the Spirits are diverted from the Office of *Chylification*, do not digest, but find a weight about their Stomack, and have likewise the other tokens of bad Digestion upon their Body, and also *Appoplectick* Persons do eat and digest double the quantity of Aliment that they do when they are whole; which seems to be only for this reason because the influx of the *animal Spirits*, being denyed throw the rest of the Nerves, takes the course more liberally throw the *wandring pair and intercostal Nerves* going to the Stomack & Bowels (whose safety Nature studies longest to mantain) so these places being most copiously imbued with Spirits, do perform their *f*ctions more vegetly. All which is learnedly treated, with the reasons for rejecting of *Fermentation* in *Digestion*, by *Conradus Brunnerus* in his *Diatriba de Lympha & usu Pancreatis.*

Now

Now from this it would seem to follow that these *belchings* that happen in *bad digestion*, are as well the cause as the sign thereof: for the *stomack* sending up throw the *œsophage* these *Steemes* that with their *Careers* throw the Mass of the contained Aliment should attenuate & comminute it into *Chyle*, is a clear Argument of the laxity and infirmness of its *Tone*; And that it is not able to Imprison them, and by straite Imbracing the *Aliment* and them to keep them there, in *Inviscate* at there work: and this contraction of the *Stomack* to Imbrace the *Aliment* upon all sides is so necessary, that any vacuity how ever little betwixt the *Aliment* and the *Stomack*, is frequently the cause and occasion both of indigestion and of the sending up of these *eructations*: that vacuity being a receptacle for these *steemes* which finding themselves at liberty from the Imbraces of the *Aliment*, by their *volatility* & *expansiveness* distend the *Ventricle*, thus proving troublesome to it, they force their passage at the mouth thereof, and are voided by way of *belching* and *ructation*: And this is also observed by *Sanctorius* in his *Staticks* where he finds that less quantity of Aliment then the usual being taken in, does neither digest nor perspire, because the Stomack scarce

ſcarce contracting more then its ordinray is not ſo far *constricted* as to touch the Aliment on all ſides.

Moreover to confirm this *Hypotheſis* of the *Stomacks Digeſtion* by gentle *rowling* of the contained Aliment, the benefit that in moſt *chronick* Diſeaſes comes by long riding ſeems to be no ſmall adminicle: For theſe Diſeaſes for moſt part coming from *crudity* and the *recrements* of the *Indigeſtion*, which beget obſtruction, by this continual motion & jogging of the Body in riding, are not only removed, but actual Digeſtion is thereby extraordinarly promoved; and that by agitation of the contained Aliment making *Atrition* of the parts thereof upon one another: And what alterations *motion* and *agitation* alone is able to produce in liquids is ſeen in the *churning* of *Milk*, whereby *Butter* is made; and that without any *Fermentation* or *Effervescence*.

Having thus far digreſſed to eſtay how *Digeſtion* is made; it plainly follows that *Indigeſtion* leaving the *Particles* of the *Aliment* leſs comminuted, attenuat, and mellowed, reſolves in the *Congeſtion* of a *Maſs* of *crude Humors* lodged into the firſt wayes, and ready to be a Fewel to begin or increaſe any Diſeaſe, eſpecially a *Fever*,

For

For altho any part of this *crude Matter* being carried into the Blood, while it is under a Brisk & Vigorous *circuit*, *Efflux* and *Reflux*, for the most part is soon attenuated and subjugated, and by that sprightful motion eliminated by insensible *Perspiration*; Yet in the case when the Blood is acting the former *scene*, these gross *Particles* and *Viscous matter*, being carried into the *Mass of Blood*, do both augment the Number and grossness, and vitiat the figures of the *globuls* of the Blood, and so putting more obstructions in the small vessels, puts also more Contumacious barrs to the motion: and thus the *Lungs*, the *Forge*, and the *Heart* the *Pump* of the motion of the Blood making life, being beset on both sides, *viz.* By the *crudities* ascending by the *lacteal Vessels* on the on side, and by the perspirable matter retained on the other Hand both hindering by obstruction the effectual making and *distribution* of the *arterial Blood*; Comes all these *Phænomena* arguing the presence of a *Fever*; and for the most part one of the *highest degree* or *first rate*.

SECT.

SECT. X.

The Natural Phænomena *in* Fevers *made to confirm this* Hipotheſis, *ſuch as* Thriſt, Pains, Inquietudes, Anxieties, Delirium, *and* Spots.

AND that a *Fever* proceeds from *Obſtruction*, eſpecially in the *Capillary* Veſſels, may be eaſily conceived by any who were ever taken with a *Fever* themſelves, if it did not aſcend to that height to bring along with it Stupidity, for they cannot forget the continual and frequent Pulſations, wherewith they were then afflicted in the Head, Back, and all the Extremities; which certainly denoteth *Obſtructions*, and difficult paſſage of the Blood throw the ſmall *Veſſels* of theſe parts, upon which the Blood, endeavouring to open theſe cloſs doors, did continually batter and beat; when in the ſtate of Health no ſuch thing is felt; becaule the Blood enjoyes a free paſſage thorow theſe Channels clear and open.

But to confirm this *Hypotheſis* farther, it remains to ſhew how the moſt ordinary Natural *Phænomena* in *Fevers* may be made to agree therewith. And

And first as to *Thrist* in *Fevers*, it seems not to be an effect of Heat, as is commonly believed; but is another Branch which springs from the same *Root* of *grossness* of the Blood, and of Obstruction depending thereon, that *Heat* it self does likewayes come from: It is not therefore the *Heat* that dries the *Tongue*, *Jaws*, *Throat*, *OEsophage*, and *Ventricle*; but it is the defect of the watering these places with the *Lymph* and *Spittle*; because the *Lymphal* and *Salival Glandes*, being in like manner affected with the same *Obstruction* from the *crassness* of the *Humors*, either do not secerne their proper liquor from the Blood, or do not *excerne* and *squeeze* it out on these parts.

The *Phænomena* of *Paines* of all sorts *inquietudes*, and anxieties, may also be resolved in that same fountain of obstructions; For the rayes of Heat, or Spirits not being able to run their course, and carreer; by reason of the gross *Medium* and obstructions; do therefore *refile* and *recoile* on all hands, and by their *brisk twitches* on the *membranous* parts endued with exquisite sense, they raise *paines*, and uneasiness: and acting their *scenes* in every *organ* they do excite *Symptomes* Competent thereunto.

And

How delirium is made

And in the Brain *Delirium* or *Raving* ſeems to be raiſed much after the ſame manner, for it appears only to be the *Direct* and *Regular* motion of the *Spirits* by *Refraction* and *Colliſion* perverted, imprnting a *Troubled Chattered* and *Falſe* Imagination; Much after the ſame manner as there is a deception Imprinted in the *Fancie*, when an *Oare* appears broken, the one half thereof being only in the Water; And that becauſe of the *Refraction* or *Diſtortion* of the *viſible rayes* coming to the Eye: So then it is very probable the Spirits within the Brain, at the leaſt the *nervous juice* their *vehicle* or *medium*, being generate of that *craſs* and *unequal* Blood the parent of theſe *Refractions* and *Perverſions* acted in the Maſs of Blood, that thereof alſo may be generated ſuch *nervous* juice as will make the Spirits obnoxious likewayes, by *Refractions* and *Depravations* of their *motion*, to produce all theſe *Phænomena* competent to the *region* of the *Brain* & *Nerves*: And that by reaſon of the *Obſcurities* or *Inequalities* of their *medium*, that is the nervous juice, throw which theſe Spirits do paſs.

And that theſe *Deluſions* are raiſed much after this manner is farther clear, by pondering

dering that familiar *deception* of the *Touch*, which is made and exerciſed by croſſing the Formoſt finger with the Mid-finger of the ſame Hand above it; and with the points of the two fingers thus placed, if ye ſhall touch any little *Ball*, you will not only think, but ſwear it to be two, neither will you any wayes be delivered from this error but by the Eyes: The true reaſon of this deluſion ſeems to be from the *diſtortion* of the *nerves*, which neceſſarly induce a *depravation* of the *Impreſſions* made and conveighed by the *nerves* unto the Brain: And as this *diſtortion* in its manner & effect reſembles very much the *refraction* of the viſive rayes miſrepreſenting the object in the *Organe*, ſo it beſpeaks a *delirium* or depraved Imagination to come from ſome *refraction* of the *ſpirits* within the Brain

How *ſpots* are made

As concerning the eruption of *ſpots* in *Fevers*, there ſeems nothing more perſwaſive to confirm the *Hypotheſis*: For theſe altogether reſemble the markes made by ſtroaks on the Skine; And theſe markes are alſo made by the *ſtagnation & coagulation* of the Blood in the ſmall *Channells bruiſed* and *diſtorted*; which remain until new Blood ſuperveening, both cleanſe and repair theſe *Channels*

Channels, and reſtore to the skine its uſual colour; which is ſoon done when the Maſs of Blood is *intire* and not infected with an *obſtructing Groſſneſs*: After the ſame manner theſe *Spots* in *Fevers* happen; but with this difference, that they come not from the *bruiſing* of the *Channels*'; but from the thick and groſs Blood ſtoping and *coagulating* in theſe *Channels*; and *tinging* the Skine with *blewneſs* or *redneſs*: And in *Fevers* the difference betwixt *red* and *purple Spots* as to the cauſe is the ſame, that is betwixt theſe from an external cauſe: *Blew Spots* being from a greater ſtroak and *contuſion*, beget a more *intenſe Coagulation* of the *Blood*; and the *red* from a leſs, produce a leſſer *effect*; for every Light external cauſe is apt to make the Skin *red*; as the *bits* of the *Flea* often do: And ſo a leſſer *coagulation* in *Fevers* begets *red ſpots*, and a greater makes *purple Spots*.

SECT

SECT. XI.

That the Phænomena *of* Helpers *and* Hurters, *in* Fevers *confirm this* Hypotheſis: *And firſt how* Bleeding *a* Helper *confirmes the ſame*: *And ſeveral other* Phænomena *concerning* Bleeding, *cleared according to this* Hypotheſis.

THE nixt point both bringing light to the *Theorie* and fruit to the *Practiſe* of the Cure of *Fevers*, is the exact conſideration of the *Practical Phænomena*, the Helpers and Hurters in *Fevers*; And how they do the ſame.

And the firſt is *Bleeding*, which by the conſent of almoſt all is granted to be very beneficial; but if by this *Theory* is be cleared how it is ſo, it may perhaps have its effect further improven alſo thereby; Now its certain that for the moſt part *Bleeding* Cooles the Body, Calmes and ſlackens the Pulſe, and allays almoſt all violent Sym*ptomes*? In ſo much that being celeberate to one in the *Fury* and *Fever* of a *Drunkenneſs* it allays that alſo; But how it does this is to be inquired: Its certain that the immediat effect of *Blooding* is the Emptying or depletion

pletion of the vein that's cut, and the nixt effect to this must be that the *Blood* that's poured forth of the *Vein* that's cut, not going back to the *Vena Cava* or great *Vein*, must be in consequence, a proportionable Depletion of that *Vein* also; Because the usual accession of Blood from that Vein cut is intercepted; Now this Ebb made in that great Vein must certainly make the rest of the Veins that feed it flow with greater Force and Quantity thereunto likewayes; Because the *moment* of *Resistence* in the great Vein thereby being less then it was, is also less then the *Pressure* of the Veins feeding it, which must make them empty themselves therein with greater freedom and force then they did before. And this in consequence, diminishing the pressure of the Blood in the whole Veins which lay against the *Arterial Blood*, must make the *arterial Blood* from all the Arteries go into all the Veines with more freedom also: When before the whole Veins being choak full, by the *resistance* & *contranitence* of the *venal* against the *arterial Blood*, the *arteries* emptyed themselves with dificulty into the *veins* & any *obstructions* betwixt the *Arteries* & *Veines* could not easily yield to the Pressure of the *Arterial Blood*; Because the *Venal Blood* being throng, and *Regurgitating* its

its Reſiſtance was equivalent to the *Preſſure* of the *Arterial Blood*: And ſo little or no advance being made in the motion of the *Arterial Blood* toward the *Veins*, it could not ſweep and clear theſe paſſages betwixt them & the *Veins*: Not very unlike, as when *a Mill-Wheell* ſtands ſtill and has its motion ſtoped by back Water, there being an equivalent weight with that which ſhould force it about hinging on the other ſide of it; But when the back Water is removed off, or falls low, then the motion goes on as before: even ſo it is here that any ſudden *Depletion* of the *Veins*, as taking away the Reſiſtance, gives the *Arteries* freedom to ſquirt the *Arterial Blood* more freely into the *Veines*; And conſequently to ſweep away all *ſtopes* and *rubbiſh* in the way.

But it is to be obſerved here, that upon the opening of any *Vein*, this ſcouring of the Paſſages is moſt effectually perfotmed in theſe *conduits* that are betwixt the *Arteries* and that *Vein*: Theſe *Arteries* being firſt, and moſt ſenſible of the removeal of the *counter Ballance* that lay againſt them, catch the opportunity, by emptying themſelves precipitantly into that Vein, to ſweep powerfully the *interjacent Paſſages*.

From this may be offered a propoſal for

A Propoſal for improvment of *Phlebotomy.*

improvement of *Phlebotomy*, to wit, if it may not be thought the moſt effectual and moſt univerſal way to clear the Obſtructions throw the whole Body, that in place of *Bleeding* in one Member the ſame were uſed at the *four Extremities:* And alſo in the ſame quantity which is uſed in one Bleeding; and that by opening the Vein in each Arm & in each Foot: For thus there being at once made *a depletion* of ſo many *Veins* containing a *counter Ballance* againſt the *Arteries* anſwering to them, the *Arterial Blood* would, by its quick ſpringing into theſe *Veins*, powerfully ſcoure all theſe Paſſages betwixt them and theſe *Veins:* from which would follow a ſudden, chearful, and univerſal *efflux* of the Blood from, and *Reflux* thereof back again to, the Heart; which motion was before ſlowly, partially, and ſuperficially performed; for the *Arteries* not emptying themſelves cleaverly enough into the *Veins*, there is little room made in them to receive the returning *Venal* Blood, ſo there follows almoſt a *ſtagnation* in both: Notwithſtanding of the frequent and aſſiduous attempts of pulſation of the Heart.

If

If we consider further the other *Phœnomena* of *Phlebotomy*, we will also find that they concur both to the establishment of this *Solution*, and of the principal *Hypothesis*: As the benefit thereof in *Hemorhagies*, which has been violently strained by the *patrons* of *Effervescence*, and of the *rapide motion* of the *Blood* to favour their *Theories*, but being narrowly pondered, will appear both to evert theirs, and establish this: For *Hemorhagies*, especially these in *Fevers*, come most part from the *Arteries*, not because the Blood then *circulates* more *rapidly*, for in that ease meeting with no obstruction, it would have no occasion to burst the *Vessels*: But rather because it is not received a pace into the *Veins* as it is sent from the *Arteries*, breaking its bounds and bursting its *Vessels*, its poured out another way: And the proper Remedy of this being *Phlebotomy* doth clear this; because it diminishes the *pressure* of the *venal Blood* lying on the Borders of the *Arteries*, whereby they overcome and work off any obstructions betwixt them & the *Veins*; and emptying themselves easily therein, the Blood does no more deviat into those Ruptures. But that this Remedy may be more speedily effectual, it would

How Blooding helps in *hemorhagies*.

ſeem to require the opening of the *Vein* that directly anſwers to the *Artery* that is broken, as more immediately taking of the *contranitency* lying on it: At leaſt this would be done after the opening of one at more diſtance, which althô oftentimes at firſt is to be done, yet ſometimes it falls out to be done without effect, and then this immediate *Vein* ought to be opened.

And farther, an *Hemorhagy* from the *venal* Blood turgent,& bruſting the *Veſſels*,or from *Acrimony* contracted by its *Stagnancy*, corroding them, yielding likeways to this Remedy gives alſo the ſame Confirmation: For the *Stagnation* of Blood in great quantity in the *Veins*, does not only ſwell their Coats and weaken their *Tone*, (by which they *contract* to thruſt the Blood back to the Heart;) but may alſo ſo far ſtreach them, as to make a Rupture: And this is moſt effectually cured by *Phlebotomy*, for the *Veins* being emptied, the Coats *ſhrink* in, and the Rupture is cloſed: And farther the Blood upon that emptying, making its Circuit more quick to and from the Heart, is noways apt to deviat or ſecede again into theſe Ruptures. And here by the way may be obſerved, why an *Hemorhagy* from the *Veins*, is not ſo uſual as from the *Arteries*, &

if

if it fall out it is more eaſily ſtoped in them then the *Arteries*: the reaſon of which is both from the different Nature of the Blood contained in theſe Veſſels and the different ſtructure alſo of the Veſſels themſelves, in reſpect of the motion of the *blood* therein: For the *Arterial Blood* being more ſpirituous and volatile is eaſily evacuate at any chink: As alſo the Blood in the *Arteries*, making its progreſs from a wide place of the *Channel* unto a narrower, any obſtructing matter it meets with, is by its motion more impacted and rivetted into the narrower part of the *Channel*: Which occaſions the *Arterial* Blood to burſt its paſſage another way: Whereas the motion of the Blood in the *Veins* is from a narrower place of the *Channel* into a wider; ſo any obſtruction is eaſily carried before the Blood. As alſo it occurrs here to be obſerved, that for the ſelf ſame reaſon the *Arterial* Blood, thô it make no faſter advance from the Heart, then the *Venal* makes its return to it; and alſo althô it be more *ſpirituous* and *volatile* then the *Venal*; Yet it needs the help of Pulſation to carry it on which the *Venal* needs not: The reaſon of this ſeems to be the ſame different ſtructure of theſe Veſſels

Other Phœnomena of the motion of the *Blood* cleared.

Veſſels in reſpect of the Bloods motion in them: For the *Arterial Blood* making its progreſs, as is ſaid, always from a wider place of the *Arterie* unto a narrower, needs the force of the Pulſe to drive it foreward: But the *Venal* contrarywayes moving from a narrower place of the *Vein* into a broader, is ſerved with leſs force; the *contraction* of the Coats of the *Viſſels*, with the help of Reſpiration at every turn preſſing on the great *Veins* within the Trunk of the Body, and the Valves hindering its return, is ſufficient alone to carry it back to the *heart.*

The reaſon why the worſt *Blood* is firſt evacuated.

There is moreover another Benefite to be remarked in *Phlebotomy*, beſide the ſimple depletion of the *Veins* and the former beneficial conſequence thereof, & that is this, if the *Veſſels* or the *Arteries* ſituated beyond the Orifice made in the *Vein*, do contain any *Labefactted*, *Rheumatick*, or *Purulent Blood*, ſuch is moſt part voided; the more opime and pure being retained: The reaſon of this *Phœnomenon* appears to be thus, when the *circuit* of the *Blood* is not throwly perfected, many of the *Globuls* or *Particles* thereof, ſtagnating become *torpid* and *purulent*, and ſuch for the moſt part are accumulat toward the inner

inner *Superfice* of the *Trunk's* of the *Veſſells*, the more Opime Part being carried in the middle of the *Channel* toward the *Heart*: As is obſerved in a *River* or *Torrent* which alwayes drives *Heterogeneous* & *groſſer* Bodies toward the *Brink*; This ſeems the true ſtate and diſpoſition of the Blood in the *Veins*, when *Phlebotomie* being uſed, exhibites ſuch *Blood*, for the *Vein* being opened, ſuch *Blood* as is neareſt the *Superfice* of the *Veſſell* comes firſt out, which diminiſhing the Preſſure of the *venal Blood* on the borders of the *Arteries* adjacent, the *Arteriall Blood* ruſhing into the *veins*, Imbraces and caries along with it the *opime Particles* of the *Blood* unto the *heart*, leaving theſe behind that are *unapt* or *incongrous* to the *genius motion* & *Imbraces* of the *Spirits*: Whence it happens that more of theſe, *vitiat Particles* are heaped up together toward the ſide of the *Channel*; For ſuch by their *congruity* and *ſimilitude* involved in mutual Imbraces ſticke cloſs by others; And ſo this ſtream of *labefacted Particles* coming firſt out at the *orifice* of the *Vein* does not only cloſe it to the *opimer Blood*; but they following cloſe ſtick to one another & make like a *Thread* Spun out at the *Orifice*.

And it is known with how much the greater *Stream* the *Blood* ſprings forth of the *Vein* cut,

by ſo much the more it appears *Labefactied*, and the Patient has alſo more eaſe thereby: Becauſe the *Blood ſtagnating* & *turgent* in the *Veines*, the *Labefactied* part thereof no wayes obeying the motion of the *Spirits*, & of the *Opime Blood* but deviating into corners is eaſily thruſt out at *Chinks* and *Holes*.

Why the ill Blood comes firſt or laſt.

In ſo far as Concerns the firſt and laſt coming out of this *vitiated Blood*, and the appearing thereof alſo thus different in the meaſures receiving it; It would ſeem when it comes firſt out that theſe *Particles* either lay moſt in the *Veins*, or that the *Contranitencie* of the *venal Blood*, againſt the *Arteries* being leſſer, ſuch *Particles* are alſo ſoon caſten off from the *Arterial Blood* coming into the *Veines:* But on the other hand when theſe *Partieles* ly deeper in the *Arteries* or *Capillary veſſells*? Or where the *Stagnation* or *Cantranitence* of the *venal Blood* being more, yields only to a greater effuſion of *Blood*, the ſegregation and expulſion of theſe *Particles* is ſlowe r,& the *labefaction* a-pears moſt in the laſt meaſures. For which reaſon, and alſo in the caſe where the Patient can more eaſily bear the ſame quantity of *Blood* to be evacuat by degrees,rather then all at once;it would not be impertinent alwayes

alwayes to make ſome ſtops of the *Orifice*, till the *Blood* being cooled give the marks of its temper; whence may be made a computation of the due meaſure and quantity of the preſent *Evacuation*.

From all theſe things thus *tranſacted*, it is evident that the integrity of the Functions, and the ſerenity of Health does depend on this *motion* and *circuit* of the *Blood* duly performed; except it be in the *affects* of the *Brain* and *Nerves*, the Foundation whereof is alſo laid by ſome latent vice of this *motion* of the *Blood*: And farther that this courſe may throwly proceed, and that the *reflux* of the *Venal Blood* may not only furniſh matter to the *efflux* of the *Arterial Blood*, but alſo that the *Venal* by its ſtagnating may not overballance it, or with its weight hinder the *arterial Blood* to ſqueeze out any *obſtacles* of its motion ſticking into the *Channels* of the *Veins*; ſuch is the *wonderful providence* of *nature* (I ſay to diſpatch the *incumbrance* of this *Motion*, eſpecially from the weight of the *venal Blood* preſſing againſt the *Arteries*) that ſick People without conſidering ſo much, are put at once under the Remedies and effects of their evils, by their lying down upon the approach

Why People ly down upon a fit of ſickneſs.

of any fitt of Sickneſs: For, as the Famous D. *Lower* has obſerved in *Tractatu de Corde*, the native Gravity of the *venal Blood* below the Heart augments its *preſſure* againſt the *arteries* more when the Body is upright, than when that ſituation is changed into a plain *level poſture*, by lying down; for then the *venal Blood* flowing like a *River* in a *level Channel*; and ſo being more eaſily carried back to the Heart, both takes off the *contranitencie* from the *Arterial Blood*, & does at the ſame time ſupply the *Heart* with Matter for new *Arterial Blood*; and alſo hands about the motion of the *Arterial Blood* into the *veins*, and thus the *Symptoms impendent* are warded off.

Why Blood letting is eaſieſt when lying abed.

And much for the ſame reaſon it is, as is obſerved to good purpoſe by ſeveral *Practitioners*, that ſick People can with more ſafety & eaſe endure *Phlebotomy* lying on a Bed, then ſitting upright, becauſe in that ſituation the *Preſſure* of the *venal Blood* againſt the *Arterial* being leſs, is not only with leſs quantity of *Blood* let out taken off; but alſo the intercepted courſe of the venal Blood to the Heart in that poſture is ſooner *redintegrated.*

If there ſhall yet remain any doubt of the Verity or Probability of the *Hypotheſis* of the

the slowness of the *Blood* in *Fevers* from the *viscosity* & *crassness* and the *obstruction* of the *Channels* thereby, because the *blood* drawn off *feverish* persons oftimes remains without any solid *coagulation:* from which many Authours have deduced the *tenuity* of the *Blood.*

An Objection of the Bloods not coagulating when drawn in Fevers answered.

But the more close consideration of this *Phænomenon* will shew it far otherwayes, for it is certain, that *Blood* drawn does *coagulate*, the *crass* and *heavie Particles* subsiding, and the *thinn* and *watry* Parts swimming above, upon this very reason that the *serosity* is endued with suteable *Levity* and *Tenuity*, and the *clotty* parts have their due *ponderosity* and *crassness*, with such *dimension* in respect of the *tenuity* of the *serosity*, as may make the *separation:* So that by the *Levity* and *Tenuity* of the *Serum*, the *grumous* parts fall to the bottom; and on the other hand by the *gravity* and *proportionable dimension* of *grumosity* the *serosity* swimms on the top: But if after *refrigeration* the *Blood* remain without distinct *serosity* and *grumosity*, it truely denotes either the *tenuity* of the *serum* to be *vitiated*, and its *viscosity* augmented; Or the *gravity*, at least the *dimensions*, of the solid *Particles* in respect of the *serosity* to be altered! And so the

Solid

Solid Parts and *Globuls* of the *Blood* are kept in the *Embraces* of the *ſeroſity*; Each balancing another ſo equally that no *Percipitation* or *Secretion* of the *Craſs* from the *thinner parts* is made.

SECT. *XII.*

Purging in Fevers conſidered from Reaſon and Authority.

THE next practical *Phænomenon* to be conſidered with its uſe and utility in *Fevers*, and how it clears the ſuppoſed *Hypotheſis* is *Purging*, as coming in the *Method* of our Author immediatly after *Phlebotomy*: And is only required when there is plenty of *Fewel* to nouriſh the Diſeaſe lodged in the *firſt wayes*, the *Stomack*, *Inteſtines*, *Meſentere*: Which by its emitting of *Crudities* into the *Region* of the *Blood* introduces new Obſtructions, the former being ſcarce well ſubjugat and ſubdued; and cauſes the continuance of the former *Scenes* in a *Theater* very much diſpoſed thereto: And that by joyning forces with the *Perſpirable* matter retained, ſcarce yet eliminated: whoſe choke Nature ſeverally and ſeparate would be able to ſuſtain; but being altogether unequal

qual to their joint assault, without fresh supplies she must thereto yeild and succumb: Then is most welcome the aproach of the *Cathartick* with its force & power, as only sufficient to intercept and divert the Enemies Provision and Forrage from this Coast.

But farther, to evince the security, utility, yea necessity of this *Auxiliarie* of *Nature* in this Intestine War; it's to be considered that this Method of our Author is not only exactly adapted to the *Concatenation* and *Complication* of causes making and tomenting this War; but thereby all the *Auxiliaries* are drawn up and planted in that *Order* and *Battalion Form*, that each of them does both back and make good each others assault; And bridle and restrain their *Depradation*, *Ravageries* and *Exorbitancies*: For the *Cathartick* and *Paregorick* Forces charging the Enemie severally and alone, in stead of *Auxiliaries* often prove *Depredatory*: So then in the first place comes *Phlebotomy*, whereof the proper & direct effect is not more to be considered, then the *Respective & preparative relation* it has to the *cathartick*, (often times to be given on the back of it;) comes to be remarked: Which in that *order administred* as it *operats*, gently and without

out *tumult*; So does it more efficaciously then being administrat otherwayes. And this as it is observed by the most famous *Silvius* is comunicat as a remarke very useful in Practise. And thô there can be no such persuasive Arguments for this as experience; Yet for satisfaction of the curious inquirer of the reason thereof, & that they may have an adequat *idea* of the *Phenomenon* (perhaps also bringing light as well in other cases as this,) I shal make this essay to give a reason therefore.

It seemes probable that all *tumult* and commotion in the Body, with anxieties and trouble accompanying it, has its rise from the complication of thir causes, and according to their *Intension* or *remission* is more or less, *viz.* From the *energie* of the *Impellent* faculty or *explosion* of the *Spirits*, exciting frustraneous *Essayes* to pass themselves throw their *Medium*; or to carry matter throw proper passages destinate for that end: and these Essayes are *frustraneous* either because of *indisposition* and *inaptitude* of the *matter* throw *viscosity* or *grosness*; Or because of the closness or *Scabricity* of the passages: And so these *explosive* motions of the *Spirits* terminate in *collisions*, *repercussions*, & *irksome touches* of themselves; Or of that moveable matter upon

upon the *Walls*, and *Fibres* of the *Veſſels* and *Bowels* inducing therein *Irritations*, *ſpaſms*, *anxieties*, and *troubleſome ſenſe*: ſome being affected principally & ſome by conſent: in which tumultuating ſtate the *Functions* deprived of their due *Incomes* and *Recruites*, do alſo languiſh; and conſequently become *lank* in their office: So then on the approach of the *Adventitious irritating* and *ſtimulating* force of the *Cathartick*, either under a preſent *Orgaſme* thorow the foreſaid cauſe, or under a *Diſpoſition* or *Proclivity* thereunto; there muſt neceſſarly a *Tumult* ariſe, or one already begun be heightned; there being ſo much of an additional cauſe put, as the *Commotion* of the remainder of the *crude humors* ſtirred up by the *Purgative*; which being thereby ſomewhat *attenuate*, are eaſily carried into the Blood; and do by their viſcoſity and groſſnels, which makes their unaptitude to go throw the ſmall *Channels* and *Veſſels*, ſtop and cloſe theſe *Channels*.

But by *Veneſection*, the *Obſtructions* as was ſhown, being much reſolved, and the courſe of the Blood in a manner reſtored, theſe *Spirits incitat* and *irritate* by the *Purgative* enjoying a free courſe throw a *pure medium*, and

do *excite* no *tumults*, & also these *particles* of *commoved matter* meeting with a *brisk motion* of the *Blood* & *patent channels*, are soon *dissipate*, *scattered* and *expelled* by *perspiration insensible.*

Authorities purging for in Fevers.

And the Benefit of *Connecting* immediatly together *Phlebotomie* and *Cathartick*s in *Fevers* has been the succesful *Practise* of many *famous antient Authors* (yet none thereof adverted the beneficial use of the *Paregorick* after the *Cathartick*) as *Riverius* in his *Practise of medicine*, *Lib: xvi. Of the pestilent Fever*, *chap* 1. In that most cruel *Fever* that raged at *Montpelier* which took away the half of these that were infected therewith, althô the sick People had the eruption of *parotides*, & were brought to extreme weakness, yet he, induced with the unsuccessfulness of all other Methods Cured them with *Bleeding* and *Purging*: So that none that were so treated by him died. And *Sylvius Delaboe* that, deservedly to this day famous, *professor* & *Practitioner* of *Medicine at Leyden*, does in the *first Book* of his *practise*, *Chap*: 29. Institute his Cure, yea of Burning *Fevers* with *Blooding* and *purging*; the *purge* to be given even within an hour after the *Blooding*: And he appoints both to be reiterated till the

Fever

Fever become much thereby ſubdued. And *Donckers* that *Famous Practitioner* in *Cologne* in his *treatiſe* of the *Petechial Fever*, which is the ſame with a *Malignant Fever*, does follow much the ſame *Method*, begining with *Purging* & *Bleeding* in that *Fever*: and gives with all this *Practical* Caution in the uſe of Purgatives, that, eſpecialy to theſe whoſe Conſtitutions and Strength are not known; they be adminiſtred, not in one whole *Doſe*, but in partited *Doſes*: For a larger quantity that way given, will have a more mild and a far more effectual operation, then a leſs quantity by the third given at one *Doſe* will have.

Some Practical Cautions Concerning Purging in Fevers.

But above all which I have yet obſerved to contribute to the ſecure & effectual preſent operation of *Cathartick*s in *Fevers*, there is nothiug to be compared to *volatile Salis*, with which the *Doſes* given to *Febricitants* being well imbued; The *anxieties*, *tumults*, and *faintings*; Uſing to ariſe during the time of the operation are extraordinarly checked and ſupreſſed: But yet if by the preſent diſpoſition of the Body, there be ſuch a proclivity to *Orgaſmes* and *Anxieties*, in the time of the operation; That theſe *volatiles* given in

Other Cautions.

this manner are not ſufficient to Bridle them: It may be ſurely as I have frequently obſerved, and to great ſurprize, as it were like an Inchantment done, by the reiterated adminiſtration of theſe *volatiles* at that time in a convenient *vehicle*: Which has ſeldome or never been obſerved to faill of the deſigned effect; And makes the purgative abſolve its operation without any troubleſome or hurtful ſymptome; And the reaſon of thir effects ſeemes to be by the intimately commixing the *Volatile* Salt with the *Cathartick*, or the Superadding it, ſo that wherever the *Cathartick* coming exerts its ſtimulating force and operation with uneaſieneſs, it is attended alſo with the opening and atenuating efficacie of the *volatile* making its operation eaſie.

SECT. XIII.

The benefit and ſeaſon of uſing Paregoricques *in* Fevers: *and there* Diaphoretique *vertue comended, and the danger of other* Diaphoretiques: *with a doubt from the* Authot Sydenham's Conſtitutions *of years anſwered, and this* Method *ſhown to be common to all* Conſtitutions.

BUT at length when the *Fewel* or *matter* being the *antecedent* cauſe of the diſeaſe is ſo plentifull and Contumacious, that being

ing only raked up & troubled by the *Purgative*, it therefore does send into the *Blood* more *crudities* and *viscosities* then the *Motion* and *Crasis* of the *Blood* only newly restored can fully subdue, and which appears alwayes most sensibly and palpably by an Ingruescence of *anxieties uneasinesse*, and *sickness* after the *Purgative*: Then does most oportunely come the third and last *auxilliary*, (the sole invention of our Noble Author *Sydenham*) to be at this season used: and this occasion does not only securely bear, but Invites and Implores for the use of the *Paregorick*; By which not only are stroaked and represſed these *stimulating Impressions* stamped on the *Spirits*, by the *commotion* of the *crudities* diffused throw all the *Regions* of the Body, which are thereby *contaminated* with *viscosity* and *obstruction*; But also a *sequacity*, *attenuation* and *yeilding* in that *viscide* and *obstruent* matter, is obtained by the *Paregorick*; Which, bringing on sleep and rest does resocillate and recruit all the *functions*, whose Integrity and Vigour cannot miss to perform *peice meal* the *attenuation* of the relicts of that *viscide matter*. And thus the Tumult apt to arise upon the *Purgative* being intercepted by the *Paregorick*, an other *Cathartick* may be administred under the *pa-*

cification obtained by the former *Paregorick* which having also brought off some of the *Fewel* of the disease, its *Tumultuary* effect may be likewayes preveened by a subsequent *Paregorick*: And so comodiously and safely we may *Purge* and *Quiet* by turns, as the quantity and tenacity of the matter requires, and make the *Purgative* exert its desired effect without any Noxious one; Until the *evacuation* of the whole *fomes*, and in consequence the Famishing of the *continent* cause of the disease: And for any small relicts of the matter, that escaping the *Purge* having got in, do fluctuat in the *Mass* of *Blood* and yet do molest and trouble it; These will be easily and safely eliminated by the *diaphoretick force* of the *paregorick* still to be continued: with which *diaphoretick* vertue it is clearly testified to be endued, by several famous Authors, from their sure experience, As *Wedelius* in his *Opiologia*, and *Ettmullerus* in his *Treatise de vi Diaphoretica opii*, both (avouching many other *Authorities* for it) clearly manifest the same.

And how acceptable must the use of the *paregorick* be unto Nature, in respect of its quieting vertue, under this *confusion* and *imminent consternation* of the *œconomie*? For it may

may be easily supposed that Nature, wearied by wrestling with the disease, would very gladly embrace and cherish a truce; as if she would hold a Counsel to deliberate; (which now may be securely done, the strength of the Enemy being in some measure broken and intercepted by the *Cathartick*) and to put to execution her resolutions, unto which sleep and rest is eminently subservient, especially coming in this order.

The hurt of meer Diaphoretiques in Fevers.

But that which more evidently contributes to this purpose, and commends the use of the *Paregorick*, is its having the joint vertue to be both *Quieting* and *Diaphoretick*; in which it excels all other *Diaphoretick*, which by their Impetuous & Precipitant *Stimulating* crude Matter toward obstructed *Channels*, do both raise a great *confusion* there, and rivet and fix that matter more therein: Much after the like manner, as when a House suppose a Church is filled with People, and this People being struck with some sudden terror, should all strive to go out together; this sudden and universal press of going out, will certainly both beget such a Confusion, that each will hinder other attempts to get out, and make the essay of all to be in vain,

every

every one proving like a wedge to keep in one another: While after the usual and ordinary way, *Patience*, *Order*, and *Quietness*, will afford to all an easie egress; by making these at more distance from the Doors, to wait untill a way be open to them, by the removal of these that are neareſt thereunto. So much after the same manner it may be apprehended, that a great and perilous Confusion will arise in the Body filled with *crude* and *viscuous Humors*, whereby the impulse of *Diaphoreticks*, they are all carried in Choak toward the superfice of the Body: In which journey the more *crude* and *viscuous Matter* lurking in the first waves, as obnoxious to the first and most valide impulse of the *Diaphoreticks* is propelled into the Blood; by which its motion already vitiat or vaccillant comes to be more obstructed: And beside there is also thereby more Matter driven toward the Pores already stoped and distorted, then can be expelled by them; which must be sent back again to the Blood, and from that to the Head and Nerves, where it will act dangerous *Tragedies*. But to make this Evacuation happily by *Diaphoreticks*, Nature and Reason seems to dictat that it ought to be gone about the just contrary way

way; first by opening the Pores and roborating the Fibres, to invite the neatest and *perspirable* Matter sticking in the *superfice* of the Body to *exhale*; then that which is next and mixed with the Blood, by a patent way may be solicited to *perspire*; and at length if ever happily, the *Crudities* in the first wayes may be inticed forth by this path with *Diaphoreticks*.

The hurt of a method directed to a Crisis.

And it is not to be questioned, but many of the *Symptomes*; and these most dangerous ones in *Fevers*, has their rise from the *Method* and *Regimen* directed toward the course of a *crisis*: which will be evident both by pondering what is already said, and also if it be observed, how many dangers attend on all hands, in the *course* of a *Crisis*, made either by *Nature* or *Art*, because for the most part Nature stands hovering with an *equal Ballance*, whither to determine the *Crisis* to Life or Death: For often the plenty or tenacity of the Matter, makes Natures endeavours terminate either in no *Concoction*, or in one without excretion: But if by hard toyl it elaborate an *Excretion*, it is often intercepted by a Funest, or at the least by an Irksome Translation into an other Disease; as by the

the *morbifick Matters* being poured out upon ſome Noble and Internal part: Whereas the Method of our *Noble Author*, being free of all theſe Dangers and *Labyrinths*, never tarries on the *Criſis*; but ſmothering the Diſeaſe in the Egg, ſuffers it not to run its uſual *Tragedies*.

A difficulty anſwered ſhewing that this Method agrees with all conſtitutions of years.

Moreover, it is here ſeaſonably and ſeriouſly to be noticed, by all that will conſider the benefit of this *Method*, that it muſt not be ſuppoſed bounded within the narrow limites of the *Fever* of one *Conſtitution*; and that it doth not enlarge its Juriſdiction and *Empyre* over all *Continual Feuers*: For when our *Expert Author* did at the firſt draw his ſagacious Obſervations, concerning acute Diſeaſes, from the *prototype Nature*, he did moſt properly then impreſs the variety of *Symptomes*, and *Cures* of Diſeaſes befalling ſeveral *Setts* of Years, with the name of diſtinct *Conſtitutions*: Thô the variety and differences of the Diſeaſes of theſe *Conſtitutions* ſeem to import no more but what might depend on the more or leſs plenty or contumacy of the *morbifick Matter*, which made its eaſie or difficult *Concoction* or *Elimination*: Therefore according to the Method

thod of a *Crisis*, he levelled in these *Constitutions*, as the genius of that *Intention* would permit: So it was only the difference of the Cures by way of a *Crisis* that did with him intitle different *Constitutions* of these Years.

But in the last *Constitution* of which he treats in his *Schedula*, most happily falling on a *method* that did suite with that *constitution*; and expending it further, he did find it a *method* that did quite alter all the former measures, and conduct of the cure of *Fevers*, and consequently his *constitutions*: and that it was a method which made the practice of the cure to run in an other *channel*, and which did take up different *indications*, & passed over the needless & dangerous conduct of Nature throw the *maze of a crise*; As that this *method* did save the strength of Nature, from a *laborious prodigal* and uncertain profusion: and was a method that profitably and securely anticipated the *crise*, he did therefore most reasonably judge it, as I received it from his own mouth, that it would agree with all manner of *continual Fevers*: neither can there be yet any solide experience brought into the field, that will weaken this Conclusion, while the daily practice of sundry *Physicians* offers it self to all that will notice it, clearly establishing the efficacie of this *method*.

SECT.

SECT. XIV.

The further Helpers *in* Fevers *considered, and how they work, and confirm the* Hypotheſis; *ſuch as* fixed *and* volatile Salts, Alcaline *and* Teſtaceous Concrets; *and alſo* Cuppings, Leeches, *and* Frictions. *Where alſo ſome* Phœnomena *of* Hurters *are conſidered; as the continual* Sweats *in* Fevers: *And the continual lying in bed: And lying with the head much* Depreſſed: *For all which, Reaſons are given confirming the* Hypotheſis.

IT remains in the next place to enquire into other Helpers and Hurters in *Fevers*, how they *Operate*, and if the explication of ſuch *Phœnomena* can bring any light to the foreſaid *Hypotheſis*: And firſt, as for *helpers volatile*, and *fixed ſalts*, are by the conſent of all granted to be very effectual, which altho in the caſe of a copious *fomes* they ſeem not to be ſafe, yet the clearing how they work, may ſhew as that they are

effect-

effectual, so when they are fit: then to answer this it would be noticed, that as the *state* or *crasis* of the blood may be vitiate two wayes, so there may be so many wayes *stops* and *bolts* put to the motion thereof inducing its slowness and making it need more frequent or greater *pulses* to drive it on to distribution; And first, when the *serosity* of the Blood, endued with due *tenuity* serves for a fit *vehicle* for the *globuls*, but these *globuls* are vitiated either by their *bulk*, *number*, or in their *figure*; that is by *scabricity*, all which *vices* severally, much more when they are *complicate*, makes these *globuls* stick and stop in the small *passages* and *channels* of the *vessels*; and so *barricade* up the course of the Blood, that there are raised frequent and violent pulses of the *heart* and *arteries* to remove them, and carry on the *blood*. The next fault in the *crase* of the Blood is, when the due *proportion* in the *number*, *bulk* and *figure* of these *globuls* is kept; yet the *tenuity* of the *serum* is vitiated by *viscidity*; and this fault also makes the Blood slow in its passage throw the small *vessels*; to overcome which the *heart* does excite great and frequent *pulses* likewise; In the first case, where the *globuls* are only vitiated, and the *serum* intire; the

the ſick are infeſted and weakened with *ſweats*; Becauſe the frequent pulſes drive away the *ſeroſity* of the Blood out at the *pores*, (which is called the *diſſolution* of the *craſe* of the *blood*) leaving the *globuls* cruded up together in the ſmall *veſſels*.

And in this caſe *fixed* and *Alcaline ſalts*, *teſtaceous* and *marine concrets*, made in ſubtile powder ſeem much to help, becauſe all theſe *concrets* conſiſting (as is known) of *particles* very *rough*, *ſcabrous* and *rigide*, the minuteſt particles whereof, where ever they go carrying that Figure with them: ſo then ſuch being mixed with the *blood* and carryed along with it muſt neceſſarly, impinging on the *obſtructions* and *ſcabricities* in the ſmall *channels*, not only ſcoure and clear them, but likewiſe by their *continual Attrition* of the *Globuls* of the *Blood*, they muſt *poliſh* and grind theſe *globuls*, and make them fit for *paſſage* thorow theſe *channels*.

As to the other *ſtate* and *craſe* of the *Blood* where the *Seroſity* being *viſcide* makes the *ſlowneſs* of the *Bloods* motion, here as there are no ſweats, ſo it's difficult to raiſe, & dangerous to attempt them.

Before any remedie can be juſtly levelled for the removal of this fault of the *Blood*, it

it must be first inquired in what this *viscosity* does consist: it seemes then that *viscosity* being a degree of *Solidity* and *Firmness*, and the first step from *Fluidity* thereunto, and that *Fluidity* consisting in the *actual* and due *Motion* of minutest parts of the *Liquors*, *viscidity* then must Import some abatement and diminution, as of their due *Fluidity*, so of their *Motion*; And that either from the weakness of the *Principle* of that *Motion* or the *unaptitude* of the matter to receive and obey *Impressions* of that *Principle*; As having some *glewy viscous* matter mixed therewith: But whatever it proceids from, it is certain that the outward or sensible *Rest* in Liquores that naturally ought to be moved, is a concurring Cause to there *viscosity*, so the agitation of Liquors does altogether take off there *viscosity*; As may be seen in the example of Ale, which being *ropie* and *viscuous* is by tossing and agitating thereof in a Bottle clos stoped, soon brought to leave its *viscosity*: So then the *viscosity* of the *serum* of the *Blood* seemes to be the effect of its want of due motion; And is further a cause to hinder that due motion of the efflux and reflux; And as this *viscosity* seems originaly to depend upon the *serum* not being duely *Impregnat* and *Irradiat* by the *Spirits*,

rits, which do make it *diaphanous* and *ſubtile*; ſo the want of this *irradiation*, may depend upon its *viſcoſity*, hindering that *irradiation*, and ſo as theſe cauſes may hinder its due motion; that want of due motion alſo does exceedingly contribute to its *viſcoſity*, and *check* the *influx* of the *Spirits*: And thus every one of theſe are mutually *cauſes* and *effects* to one another. Yet unto theſe Effects from whatſomever of theſe cauſes they be produced, ſeem much conducible all ſuch things which give copious Matter to the generation of *Spirits*; and alſo which give them being generated alſo *Spurrs*; ſuch as are all *volatile Salts*, which for this reaſon are known to break and *attenuate* all *viſcoſity*: But theſe are indeed to be uſed with moderation and warrineſs in *Fevers*, leaſt we ſhould ſpurr faſter than we open and clear the way; and ſo theſe *Spirits* too much *incited* ſhould waken up or exaſperat all theſe *Scenes* of *Confuſions* and *Tumults* to which the Blood is very prone under this ſtate.

It is certain, that long experiencee has found the uſe of *Cuppings*, *Leitches*, and *Fricſions* to be very beneficial in theſe *Fevers*: The cauſe whereof being enquired into, will alſo confirm this *Hypotheſis*: For theſe being

being uſed in ſeveral places of the Body, as they alwayes are when beneficial, by their raiſing the Fleſh and Skin, they do ſhake and looſe throw all the circumambient parts, that *congealed* and *clotted* Blood obſtructing the *capillary Veins*; which does facilitate the *arterial Blood* to run more eaſily throw them, and that by clearing theſe Paſſages of *Obſtruction*. And for *Frication* and *Rubbing* of the Skin, that makes ſuch *Impreſſions* on the *capillary Veſſels*, by preſſing them hither and thither, that it muſt neceſſarly force the *obſtructing Matter* into motion again: And moreover the benefit, that even in *Fevers*, has redounded to ſome by *riding*, yea when the Patient was neceſſitate to be held on Horſe-back for a while, can be no other wayes accountable, but by the *Impreſſions* that the *jogging* of the Body makes on the *fixed* and *coagulated* Humores, to ſet them again a going.

Now as to theſe *Phænomena* which are hurtful in *Fevers*, it is no leſs certain that theſe being duely pondered, will alſo confirm this *Hypotheſis*, for it is clear that in many *Fevers* the ſick are poured forth all in *Sweats*; And that without any eaſe thereby, but rather with great hurt and weakening: Therefore as our experimented

Author

Author obſerves theſe ought not to be indulged, but rather checked.

Now this *Phænomenon* may be eaſily ſolved, by conſidering that the *ſeroſity* of the *Blood* is in this caſe, by the frequent Pulſes ſqueezed out from the *Globuls*, whereby the *Blood* being much thickned, the obſtructions are increaſſed: while Sweats called *critical* and giving eaſe (which rarely fall out in long and great *Fevers*: Becauſe theſe are nouriſhed of a *copious* and *viſcide fewel* in the firſt wayes:) fall out in diſeaſes only cauſed by perſpirable matter firſt *attenuat* and *comminuted* and nixt *expelled* by *Sweat*, and as this *evacuation*, is altogether the effect of Nature, ſo it rarely ſucceeds happily by ſtimulating Medicines: Which after its wiſely argued, is moſt reaſonably concluded by *Sydenham* in his *Schedula Monitoria.*

Continual lying in the naked Bed why hurtful in *Fevers*

And further as our *Author* obſerves and dayly experience alſo confirmes, it is very much Hurtful to Perſons in *Fevers* to ly continually in the naked Bed: For the continual Heat of the Bed doth exceedingly *laſſe*, *enervat*, and *relax* the *tone* and *firmneſs* of the *pores* and *fibers*; Whereby they *ſhrinke* and *creep* in,

in; And ſo retain the *perſpirable matter* which ought to be evacuate throw them, and this *matter retained recoiling* on the *Blood* does much increaſe all the *tumult* and *diſorders* there: But by expoſing of the Body to a moderat refrigeration by putting on the Cloathes ſome Hours in the day, the Natural Heat is both *Concentrate* to expel that *perſpirable Matter*; and the *Tone* and *Firmneſs* of the *Pores* and *Fibres* are reſtored to give a free paſſage to it. And this is very ſuitable to the *Experimental* doctrine of *Sanctorius*, who finds and Declares reaſonably that, *the inward heat being by the external heat too much diffuſed, is not ſufficiently Concentrate, & bended to expel the perſpirable matter; as it happens in Æſtival heat that is very troubleſome to the Body, not ſo much becauſe of any vehement Impreſſions it makes thereon, For every part of the Body is hotter of it ſelf then the external heat affecting it; But becauſe of the detenſion of the* Perſpirable *matter through the defect of ſufficient* Concentration *of the Internal heat to expell it.* And indeed this *ſtate* of the *internal* heat does alſo render it ſubject to ſeveral *indirect* and *refractive* Motions, in ſtead of the *direct* motion by which the *perſpirable matter* ſhould be ſweeped forward, and expelled: ſo the leſion of *perſpiration* upon theſe

reasons seemes in this case to be amended by the Patients keeping out of the naked Bed several hours of the day, and lying on the top of the Bed with their Cloaths on: And in that Situation rather than the upright posture of the Body, the *vacillant reflux* of the Blood unto the heart is also promoved as was shown.

Why hurtful to lye with the head too low.

And also as our Author observes, it is hurtful in *Fevers* and several other Diseases to ly with the Head much depressed; it being more conducible to ly with it raised somewhat; because in that posture the lighter & finner *Particles* of the Blood, *as *Des Cartes* thinks are *sublimed* up to the *brain* for the *generation* of *nervous Liquor* and *Spirits*; and the grosser and heavier parts are carried by a descent downward: And so in that posture only there is an ascent of the Blood throw the *Arteries* unto the Head, in so much that the subtilest Particles thereof, prove alone obsequious to the Impulse: And if it chance that any grosser parts mixed therewith, do endeavour likewayes to ascend; they secede and turn off at the *axillarie* Branches: So that nothing but the most *sublime* parts of the Blood in this posture does ascend,

* *De pass. anim part.* 1. *cap.* 10.

like

like the ſubtile Spirits of Wine which are only carried ſo high, as is fit to ſeparate them from the *Phlegm*: But when the head lyes level with the Body, and that eſpecially in Sickneſs, and when the Blood is vitiated in its Particles and Motion; becauſe then and in that poſture there is no aſcent to the Head, nor deſcent to the reſt of the Body; the groſſer parts of the Blood being carried indifferently to the Head do there generate Obſtructions: Which muſt certainly produce all ſuch *Phænomena* as are competent to the *Brain* and *Nerves* being affected.

SECT. XV.

Some Difficulties concerning the Hypotheſis *Anſwered.*

IF perhaps there remain any difficulty in the mind concerning this *Scheme*, becauſe it may be thought that the Blood being always firſt ſtrained throw the narrow Veſſels of the Lungs, before it come to have difficult paſſage in the ſmall Veſſels betwixt the *Arteries* and the *Veins*, that it ſhould leave or Imprint ſome marks

its groſneſs in the *Lungs*: To Anſwer this difficulty it is fit to premiſe ſomething concerning the *progreſs* and *pedigree* of *Sanguification*: And therefore it may be reaſonably thought very likely that the *Lungs* are not only the *Colatory* for, and *Teſt* of, the Bloods ſufficient *Attrition* and *Comminution*; but alſo they by their *Braying* and *Levigating* thereof, give the ſame the outmoſt *Perfection* and *Complement*: which they do by their continual *motion* and *agitation*: For their contraction and dilatation meeting with the Pulſe of the Blood coming from the Heart into the Lungs, muſt neceſſarly make ſuch impreſſions on the Particles of the Blood going throw the *Arteries* of the *Lungs*, as will attenuate, ſmooth, and poliſh them, and thereafter the Lungs ſends them thus levigated and intimately mixed with the Air back again, and that under the notion and name of *Arterial Blood* unto the Heart, to be diſperſed by it as a Pump throw the whole Body.

The manner of *Sanguification.*

And indeed that the *Blood* receives its outmoſt perfection in the *Lungs*, and not in the Heart; As is commonly accounted, is clear from this, that the *Blood* which is ſent from the right *Ventricle* of the Heart by pulſation

pulsation unto the *Lungs*, is nothing different from the rest of the *Venal Blood*; While the same *Blood* being immediatly sent back to the left ventricle of the *Heart* from the *Lungs*, has before it enter the heart, both the colour, consistence, and rarefaction proper to the *Arterial Blood*; And differs nothing from the *Arterial Blood* in the *Aorta* or great *artery*.

Now in the case of a *Fever* althô the grosser *Particles* or *Globuls* of the clotted *Blood* returning from the *Veins* into the *Lungs*, are grinded and *levigate* over again, and then the *Blood* gives small token of its fault; Because being so near, it is also under the brisk impressions of the Hearts motion, and also being *ensembled* by its *passage* throw innumerable *ramifications*, and small *capillary vessels* in the *Lungs*, while they are likewayes under a perpetual *Systole* and *Diastole*; it is so *attenuat* and *grinded* that any tendency to coagulation or obstruction is soon put off; But yet when such *Blood* comes to the extremities of great *Arteries*, where the force and strength of pulsation cannot be propagated in proportion to the *Bloods* slowness, there then it must loyter and stop.

And moreover in some *Fevers*, which are indeed very dangerous ones, the slowness of the *Blood*'s passage even throw the *vessels* of

the *lungs* is conspicuous; that always making high, difficult, & frequent breathing.

And moreover the *Blood* is also *depurate* and *defecate* from its *crudities* and *viscosities* by its passage through the *Lungs*; And so by their taking care of the whole, and endeavoring to repair the faults of the other functions they smart for them, and become the Seat of many Diseases themselves: for that same *viscosity* and grosness of the Humors does frequently make blemishing *Impressions* on them, by obstructing & tumefying their glands, many of which obstructions are shaken off by the force of *respiration*, but not always. For altho the *Motion* of the *Systole* and *Diastole* of *Lungs*, contrarying alwayes the direct *Motion* of the *Blood* in the *vessels* of the *Lungs* must subtilize & attenuat the *Blood*; So that it stickes not easily in the *Channels* of the *Lungs*: yet often the fault of the former functions is so deep *ingrained*, that the *Blood* sent here cannot be sufficiently *attenuated*, and the *crudities* and *viscosities* expelled by the *glands* of the *Lungs*; But does obstruct and tumefie them; And breeds that disease called *Phthisis*, or *Consumption* of the *Lungs*: Now this Disease being of as universal extent among *Chronick* Diseases, as a *Fever* is among

acute

acute ones; is moſt *Learnedly* treated by Dr. *Morton* in his *Pthiſilogia:* But alas! as he wiſely obſerves, the Practiſe in this Diſeaſe is rarely attended with ſucceſs; For this reaſon that the Diſeaſe ſteals on the Patient unawares; And before he perceives he is irrecoverably taken with the Diſtemper; It is then hoped, it will be thought no impertinent or uſeleſs digreſſion, if to inſtruct every one againſt the ſurprize of ſuch a remedileſs attack, there be tranſferred here from his work, which is in *Latine*, ſuch appoſite ſigns, as may admoniſh every one of the aproach of that Diſeaſe; and put them upon their guard in caſe of imminent danger, to provide the timeous help of a faithful and skilful *Phyſician*. *The firſt ſign he gives is, The Deſcent from Parents that have been* Pthiſical: *For this Diſeaſe ſeems moſt hereditary of all Diſtempers.* (2) *An evil frame of the Breaſt, whether natural, or accidental; and that is either narrow or ſtrait.* (3) *A ſmall Voice and Hollow.* (4) *White and ſoft Skin, with a thin habit of Body.* (5) *A ſoft and* Phlegmatick *habit of the* Muſcules.) (6) *Oppreſſion or Weight in the Breaſt.* (7) *Thoughtfulneſs, anxiety, ſadneſs, and anger without a manifeſt cauſe.* (8.)

The ſigns of an imminent Conſumption given by D *Morton*.

The

The Suppreſſion of uſual evacuation by Iſſues, old Ulcers *or any other uſual.* (9) *Spitting of Blood.* (10) *A continual haughing of Viſcide and black plegm in the Morning.* (11) *Salt or ſharp phlegm haughted up.* (12) *A proneneſs to copious evacuation of ſpittle, either with or without an evident cauſe.* (13) *An continued and increaſing proſtration of appetite without any other Diſeaſe accompanying it, and with oppreſſion of the Stomach, and Spontaneous Laſſitude in time of digeſtion.* (14) *A Troubleſom and continual Heat eſpecially in the Soles of the Feet, and Palms of the Hands, cheifly after meat with a Pulſe ſomething too frequent.* (15) *A ſhortneſs of Breath with difficulty of reſpiration.* (16) *A great diſpoſition to the Cough, which is brought on frequently, either by a ſlender or no evident Cauſe at all, which is the moſt evident ſigne of an imminent Phthiſis.* And the more of theſe ſignes there be, the more ſtill is the danger.

The *Phænomenon* of the *Fever* in a conſumption confirmes the *Hypotheſis*.

Now this Diſeaſe having alwayes a *Fever* accompaning it, and that with an *exacerbation* ſome houres after Meat anſwering exactly to the time when the *Chyle* comes to the *Blood*, doth alſo confirm the foreſaid *Hypotheſis* of *Fevers*: For the *chyle* coming with the *Venal Blood* unto the *Lungs* to receive there

there its *attrition* and *perfection*; While they are affected with *obstructions* and *tumors* in their glands, that must be *superficially* done; And many of the *Particles* of the *Blood* do therefore return back to the Heart without sufficient *elaboration*, which coming to the small *Channels* of the *Arteries* betwixt them and the veins, pass there also with difficulty: So that to distribut the nourishment a frequent Pulse is raised, until the *Particles*, by often passing that way, be yet farther polished & attenuated: And so passing with greater ease the *Fever* and *Pulse* is remitted.

Another difficulty about the supposed *Hypothesis* answered.

If any shall yet judge that this *grosness* of the *Blood* should be rather productive of *tumors* and *inflamations*, then of *Fevers*: It is to be considered that *Fevers* and *Inflamations* have that common to them both, that they use to be generate together: And also *Fevers* do depend on *tumors* & *inflamations*, which shews they are near of Kin to one another: but yet they seem to differ in this, that *Fevers* depend on an universal, altho lesser grosness of the Blood, which makes it with difficulty pass the small vessels; and *tumors* depend as upon greater *grosness*, so upon total *obstruction* of the *Blood* or other Liquores

in

in some particular vessel; And oftentimes they are generate and propagate by *compression*: And perhaps it is the perverse *figuration* of some particles of the Blod, or humours in respect of the *Pores* and *Channels* of a vessel, which wholy sloping makes a total *stagnation* therein: and this *stagnation* making a *compression* on the neighbouring vessels, and these again upon the next adjacent, affects them all with *stagnation* likewayes. And thus that *obstruction* that begins in a point, may have the *sphere* of its *activity* so extended as to infect all the neighbouring parts with that tumour, as is seen in a *Thorn* which *pricking* the Flesh does compress the next adjacent *vessels*, and makes the Blood to *stagnate* therein; And they again compressing these nixt to them, produce therein the like effect; And so forth until the compression spend its Impression & force. Now in this case these *Tumors* being made of the *Blood* and *Humors*. That should slip throw the *Channels* when they do stop & *coagulate* there the *humors* are again set a going by the use of these things that add Spurrs to the Spirits and attenuate *viscosity*, such as volatile Salts, and also by such things as grate and grind gross *Humors*

such

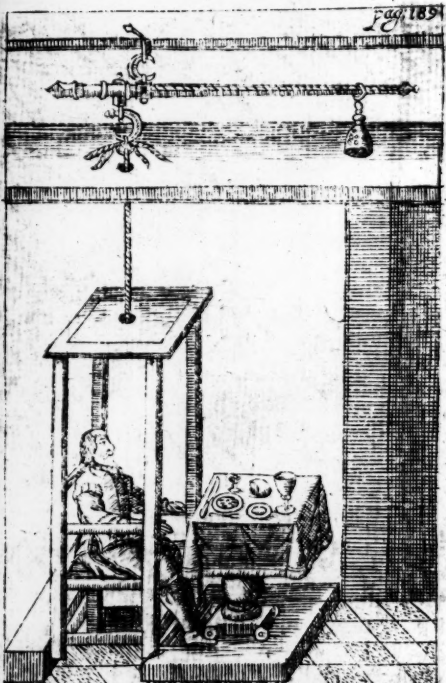
ſuch as fixed *ſalts*, &c. which internally uſed are all diſſolvers of tumours. And farther, as we find that the impurities which do cleave to garments worn, called *ſweatineſs*, and which being bred of the *perſpirable matter* ſticking there, do yield to nothing but *ſmegmatique mixtures*, ſo the *coagulations* therefrom within the body may yeild to ſuch internally uſed.

And indeed it ſeems that there is as much force in the *groſneſs* & *viſcoſity* of the humors, & obſtruction depending thereupon as will produce not only Fevers; but the moſt of all *chronick Diſeaſes* alſo: But that the various faces with which Diſeaſes appear, proceeds as from the Degree of *groſneſs* and *obſtruction*, and from the nature of the *place* or *organe* affected therewith; ſo from the impreſſion that is thereby made on the *impellent* or the *diſpoſition* of the Body, exciting either *reſentment* and *irritation*; or only *grief* and *languiſhing*; And altho in Fevers from the preſent *diſpoſition*, the impellent is for the moſt part *irritated*, and ſtrives to ſhake off the cauſe of the malady; yet in *chronick Diſtempers*, from another *diſpoſition*, it is leſs *commoved*, and rather groans under, then reſents the invaſion and oppreſſion; And theſe different effects from the like *occaſio-*

nal cause in the *natural body*, are *paralelled* by the like different consequences springing from the same occasional causes in the *body politick*; For *Tyrrany* and *Arbitrary Government* exercised upon a *Heroick* and *Generous Spirited People*; uses to beget War; but all the impression it makes on a *servile* and *despirited Nation*, resolves only in *languishing* and *depopulation*: And the *parallel* may be yet carried farther, for as *tyrrany* & *oppression* of a People is often shaken off by *civil Wars*; and they thereby brought into a *vegete* and *flourishing state*; so *Chronick distempers* in the *natural body*, are often loosed by a superveening Fever, and the body thereby is brought into a sound and healthy condition.

An APPENDIX concerning The Statical Doctrine of Sanctorius.

NOw in regard the due comprehension both of this *Hypothesis*; and of the Practice of the Cure of *Fevers*; and also of almost the whole *Theory* of *Medicine*; seems to depend upon the right and full understanding of the Doctrine of *insensible Perspiration*; the whole fundamental conclusions whereof are *demonstrable* to the Eye by the *Ballance*. Also the due *observation* and *regulation*



The Weighting Chaire.

lation of that *Evacuation* and *Indications* taken therefrom, contributing more to the preſervation of Health and Cure of Diſeaſes, than all other *indications* or *means* whatſomever: it will be then not thought ſuperfluous to inſert here the deſcription and uſe of *Sanctorius's Weighing Chair*, and alſo ſome *ſelect Theorems* taken out of his *Staticks*, whereby, the Reader having got a *Tincture* of that *Doctrine*, may be fully cleared of its uſe and fruitfulneſs.

The Deſcription and Uſe of the WEIGHING CHAIR.

THe *Chair* is hung about two inches from the Floor upon the ſhort end of the Ballance, and the Weight on the long end of it being removeable hither and thither, ſerves for two uſes; firſt having placed our ſelves therein we find out the daily inſenſible Perſpiration of the Body, and next ſeating our ſelves likewiſe in this Chair during the time of our Repaſt, and placing the Weight in ſuch a place of the Ballance as anſwers to the quantity of Aliment we intend to take, we perceive by the Chairs coming to the ground when we have taken the

the due proportion of Meat and Drink, beyond which, and short of which, we are alwayes prejudiced.

Now the *Ballance* may be fastned to a Beam in the Room above that where you take Refection: For it may be thought unseemly in the same Room; especially by reason of the Unlearned to whom all things unusual seem ridiculous.

SECT. I.

Of the Weight, Measure, and Nature of Insensible Perspiration.

Aphorism First.

IF the addition of these things that are deficient, and the substraction of those that are exuberant, be daily made as to Quantity and Quality such as it ought to be; lost Health would be recovered, and the present preserved.

II. If the *Physician* be only capable of judging the sensible Addition and Evacuation, and knows not to regulate the insensible Perspiration; he does not Cure, but deceives his Patients.

III. If

III. If the Aliment taken in one day amounts to eight pound weight, the *insensible Perspiration* amounts to five pound, or thereabout; yet there is some variety therein according to the diversity of *Natures, Climats, Seasons, Age, Aliment,* &c.

IV. And this may be easily computed having weighed the Aliments taken in by sitting in the Chair, having duly placed the Weight: then weighing the Body the nixt morning before and after sensible *Excretion*: The weight of the sensible being only found to come to three pound or thereby, the rest being five must of necessity go by insensible *Perspiration*.

V. This insensible *Perspiration* is made throw the *Pores* of the Body, which are *transpirable* in all its parts: Or by respiration performed by the Mouth coming out with the breath, which commonly amounts to half a pound a day.

VI. What quantity of *perspiration* is convenient for every One in order to continue his Health may be found out thus, observing in the Morning after a somewhat plentiful Supper over Night what the *Perspiration* in the space of twelve hours comes to, suppose it comes to 50 Ounces, then another Morning after Fasting over Night, but with this

this condition, that thou didſt not exceed at Dinner the day before, make the ſame obſervation, as ſuppoſe the *Perſpiration* to have amounted to 20 Ounces: So having made theſe obſervations, pitch upon that proportion of Meat and other Non-natural cauſes which may reduce the perſpiration to the mean betwixt 50 and 20 Ounces, and that will be 35 ounces: thus mayeſt thou live a long and healthful life, and happily an hundred years.

VII. The weight of the body being augmented without increaſing the aliment, or the retention of the ſenſible excrements, is a ſign of wanting *perſpiration*.

VIII. If the body be brought to the ſame weight that it was formerly by more *copious urine*, or *ſtools*, then the ordinary; it begins to decline from health.

IX. Plenty of *perſpiration*, and much ſenſible evacuations are inconſiſtent together: and copious ſenſible *evacuations* with *perſpiration* deficient are evil.

X. That weight of the Body is the ſtandard of health, when one can aſcend a ſteep place with eaſe.

XI. The weight of the Body is diminiſhed by the evacuation either of *ſenſible* or *inſenſible* crude matter, or by ſenſible

or *insensible* concocted Matter: The latter conduces to health; and the former takes away the *Excess*, but leaves an evil quality behind.

XII. Insensible *Perspiration* attended with sweating is not good, because sweating abates the strength of the *Fibres*: Yet it may be accounted good in respect it makes a diversion from a greater evil.

XIII. Insensible *perspiration* is visible; when the nutriment is too *copious*, or when the natural heat is *languishing*, or throw *violent motion.*

XIV. To apprehend ones self to be lighter when really they are not so, is a most wholesome state.

XV. The first seeds of Diseases are sooner known by the alterations of *perspiration*, then from the *lesion* of the Actions.

XVI. The *perspirable matter* retained, neither being resolved by Nature, nor by a Fever superveening, disposes the body presently to a *malignant fever.*

XVII. Labour and pain of the body hinders *Perspiration.*

XVIII. The least cold in the night time hinders *Perspiration.*

XIX. Frequent tossing in the Bed in the Summer time hinders *Perspiration.*

XX. The internal causes hindering *Perspiration*, are, either the occupation of Nature any otherwayes: Or the *diversion* of the *perspirable* Matter some other way; or the *weakness* of the strength to expel it.

XXI. Cloaths very burdensome hinder *Perspiration.*

XXII. After the twelfth hour from the taking of Meat there is scarce *perspired* half a pound, and then is the season of giving *Aliment*, or *Medicaments.*

XXIII. To *Aliment* or *Medicat* in the hours of the Morning before that, which is the time of the greatest *Perspiration*, does hurt; because it diverts the *Perspiration.*

XXIV. The external causes hindering *Perspiration*, are, *Air Cold*, *Foggie*, and *Moist*: *Swimming* in cold water, Meats *Crass* and *Viscide*, *Intermission*, of *Exercise* of *Body* & *Mind*; and in robust Persons, *abstinence* from *venerie.*

XXV. The external cold hinders *Perspiration* in weak Persons; but augments it in *robust* Persons.

XXVI. By *Yawning* and *Stretching* of the Joints there is great endeavours of Nature to void the *perspirable* matter retained.

XXVII. The summer heat is very troublesome, when *Perspiration* is retained.

XXVIII. *Venerie*, *actual frigidity* of the Body,

Body, too *plentiful drinking*, and *supping* as *Young Men* do, too great *Anger*, and much *Exercise*; All these shorten the Lives of old Men.

XXIX. Insensible *perspiration* being quite obstructed in the *Brain*, causes *Apoplexie*: in the *Heart* causes *palpitation*, and in the *Matrix* causes *Suffocation*, and in the *ignoble* parts causes *Gangren*.

XXX. Vomiting diverts both *urin* and *perspiration*.

XXXI. The Knees being actually Hot, helps both Sleep and *perspiration*.

XXXII. The Flux of the Belly is Cured by promoving *perspiration viz.*: By *Bathing*:

XXXIII. These that *urin* more than that they Drink, *perspire* little.

XXXIV. Hypochondriack Persons are much eased, if their Bodies be rendred perspirable by frequent Baths, and by a Moistning dyet.

XXXV. Insensible *Perspiration* being promoved by *Fomentations*, before the Body be purged, draws more to the *superfice* thereof than it can perspire.

XXXVI. Any place of the Body being very cold in the winter, hinders the *Perspiration* of the whole.

XXXVII. To ly in the Summer time with the Body uncovered, hinders *Perſpiration.*

SECT. II.

Concerning Air and Water.

1 COld Air and waſhing with cold Water, does heat robuſt Bodies, but refrigerates weak ones.

2 Warm Air and warm waſhing unleſs Crudities gain-ſtand, help *Perſpiration*, and refrigerate the internal Bowels.

3 Water that is heavy and Air that is foggie, turn the *perſpirable Matter* into an *Ichor* or *ſharp Matter*; which for the moſt part cauſes a *Cachexy*, or evil diſpoſition of the Body.

4 In a cold and clear Air *Perſpiration* is likewayes ſtoped, becauſe the Pores are condenſed: Yet becauſe the *Fibres* are alſo roborated, therefore the retained *perſpirable Matter* is neither felt, nor does hurt.

5 In a foggie Air the *perſpirable Matter* is retained, and the *Pores* are filled, and not condenſed, and the *Fibres* are relaxed, and not

not roborated: And therefore the *perspirable Matter* retained both hurts and is felt.

6 A cold superveening to a warm day, especially the usual quantity of drink being taken, stops about a third part of the *Perspiration* that day.

7 Weak persons are most hurt by the sudden approach of cold.

8 A pleasant *Cool* coming upon Bodies heated, hurts them more then the greatest coldness of *Air* or *Water*; because the first obstructs and relaxes the *Pores*; and the last obstructs and roborats them.

9 A pleasant southerly Air with violent exercise, is oft times very dangerous; for the Air brings the stoping of the *Perspiration*, and the exercise brings the *acrimony* thereof.

10 Weak persons in the Winter evacuat the *Perspirable* Matter retained by Urine, and robust Persons in Summer.

11 Long Droughts are wholesomer than continual Rains, for they make the Body lighter.

12 In the Summer we are troubled with heat, not because of the heat of the Air, for every place of our Body is hotter then the Air, but because the Summer Air does not sufficiently *concentrat* the internal heat; but suffers it to diffuse, whereby

it is leſs powerfull to diſpel the *perſpirable Matter*; which being retained becomes *Acrimonious*, and ſo becomes troubleſome to us.

In the Summer in the day time, but in the Winter in the night time, robuſt Bodies *perſpire* moſt.

14 Want of *Perſpiration* in the Summer brings a *Maligne Fever*; but in the Winter ſcarce brings any hurt: The *perſpirable Matter* retained turning far ſooner *Acrimonious* in the Summer, than in the Winter.

15 Sleeping in the open Air in the Summer with the Body uncovered, hindering very much *Perſpiration*, proves exceedingly dangerous.

16 The *perſpirable Matter* retained, is not apt ſoon to hurt the internal Bowels, unleſs it become *acrimonious* by external heat, by violent motion, or by its long ſtay.

17 The hurt of *immoderate Venery* is in ſome manner allayed by cold immediatly ſucceeding heat, which *concentrats* the internal heat.

18 In the Summer nights by the variety of the temper of the Air, Bodies are very much diſpoſed to *Fevers*.

19 From the *Autumnal Equinoctial*, until the Winter *Solſtice*, there is every day about a pound

a pound of *perſpirable matter* retained.

20. *Autumnal* Diſeaſes ſhall be eſcaped, if your body be not of more weight in *Autumn* than it was in Summer.

21. You ſhall be troubled with no Diſeaſe in the *autumn* if you meet the ſupervenient cold with ſufficient clothing, and by the uſe of Diureticks, keep the body in the ſame weight it was before.

22 Thoſe that are troubled with diſeaſes in the Winter ariſing from the plenty of humors, are to be purged in the *Autumn*, but not in the Spring; and are to be brought to the weight that they had in the beginning of Summer.

23 When Diſeaſes come from an evil *quality*, the Body is to be purged in the Spring; for the Summer increaſes moſt the evil *quality*.

24 Thoſe that throw off their cloaths early in the Spring, or are too long in putting them on in the *Autumn*, do fall into *Fevers* in the Summer, and into *Diſtillations* and *Defluxions* in the Winter.

25 Health would be preſerved even to the extremity of Age, if the Body were kept in an uſual weight all the four Seaſons of the year.

26 The increaſe of weight is alwayes in the

the beginning of *Autumn*, and the diminution thereof in the beginning of *Summer*; and there is more danger in the increase, than in the diminution.

27 Air too moist or windie hinders *Perspiration*.

SECT. III.

Of Aliments, Meat and Drink.

1. *Aliments* that make the Body heavy, are such as are taken copiously, or such as are difficult to digest: and these that keep the Body light, are such as we are accustomed to, and such as are easily evaporated.

2. A full and a void *Stomack* both divert *Perspiration*; the full *Stomack* by *Corruption* of the Meat, and the void *Stomack* attracts it, that it may be filled.

3. Robust Persons do discuss too great plenty of Meat eaten by *Perspiration*, less robust Persons by *Urine*, but weak Persons turn the *Chyle* into *Corruption*.

4. If the usual Super be intermitted, the *Stomack*

Stomack being empty, the *perſpirable* Matter is both retained, and becomes *acrimonious*, & ſo the Body is diſpoſed to *hot* Diſeaſes.

5. Unuſual abſtinence from *Aliment* does ſometime hurt.

6. The uſe of Swines fleſh, eſpecially dried in the ſmoak, hinders *Perſpiration*.

7. That kind of Meat *perſpires* beſt, whoſe weight is leaſt found in the *Stomack*; for where there is a difficulty of *Digeſtion*, there is alſo a difficulty of *Perſpiration*.

8. That Meat gives the beſt *Perſpiration*, whoſe Excrements come away conſiſtent and ſolid.

9. The time when the Body has leſt *Perſpiration*, is when the Body is full of Meat eſpecially of variety.

10. Drinking of water hinders inſenſible *perſpiration*, but advances ſenſible.

11. To eat preſently after immoderat exerciſe of Body or Mind is hurtful.

12 Eating and Drinking copiouſly, doth oftentimes obtund the *Acrimony* of the *perſpirable* Matter retained, and does hide the infirmities of the inward parts, which oftentimes upon *abſtinence* or *purging* of theſe Bodies does break out.

13. Meat that eaſily *perſpires* (though of ſmall nouriſhment) doth better repair the ſtrength

ſtrength decayed by too much *venery*, than Meat of greater nouriſhment, but of difficult *perſpiration*.

14. *Onions Garlick*, *Wedder Mutton* and *Pheſants* fleſh but eſpecially the *Cyreniack juice*, help the *perſpiration* of Meats that are difficult to *perſpire*.

15. Meat very little in quantity not being *imbraced* by the *Stomach*, neither digeſts nor reſtores the Body, nor *perſpires* well.

16 *Inſenſible perſpiration* is the *excrement* of the third *Concoction*, ſo that the firſt not being perfected, the third cannot be *accompliſhed*.

17. The *corruption* of Meat makes wearineſs, becauſe it diverts *perſpiration*, and this *corruption* is known by a *Celiack Flux*, by which the Meat comes away with the *excrements* undigeſted.

18. The Coldneſs and Clammineſs of the *juice* of *Cucumbers* is kept in the Veins; And other unwholſome *juices*, thô of eaſy concoction, by obſtructing *perſpiration*, cauſe *Malignant Fevers*.

19. None will fall into a diſeaſe, if they be careful to provide againſt the heaping up of *Crudities*.

20. The Supper taken with the mind troubled, does not digeſt.

21. To

21. To drink betwixt the Dinner and Supper is hurtful, but if ſo much the drink be leſs at Supper, the hurt is diminiſhed.

22. An uniform Dyet wants the benefit of one that exceeds ſometimes twice or thrice a Moneth, for the *Expultrix* faculty being ſtirred up by the redundancy, excites ſo great a *perſpiration*, as without the Statickes none would beleive.

23. In a cold Body, Hony *nouriſhes*, and *perſpires* well, but in a hot, turning to *Bile*, it hurts.

24. There is nothing that hurts *perſpiration* more, than to drink when the *Chyle* is making in the *Stomack*.

SECT. IIII.

Of Sleeping and Waking.

1. THE *perſpiration* in Sleep accompanied with ſweeting, is no more than it uſe to be without it.

2. In quiet Sleep there is a greater *perſpiration* than in violent Exerciſes.

3. A wearineſs after Sleep is a ſigne that the Body is of greater weight than the Body can long bear.

4. Per-

4. *Perſpiration* is more impeded in Sleep by a Southerly cold Air, than it is hindered in thoſe that are awake by the greateſt cold.

5. Thoſe that go to Bed with the *Stomack* empty, *perſpires* leſs by a third than they would do otherways.

6. Sleep is moſt proper four hours after Meat, for them the firſt concoction is near abſolved, and *perſpiration* ſucceeds beſt.

7 When the ſleep is ſhorter then the uſual, there is ſomething of *perſpirable* matter retained, which unleſs it be expelled afterward puts them in hazard of a *Fever*.

8. Streaching of the Joynts after ſleep is made by the plenty of *perſpirable* matter well prepared for *expulſion*: So there is more *perſpired* in half an hour then, than in three houres at another time.

9. Thoſe that give to ſick People Medicines two hours after ſleep (which is the ſeaſon of moſt plentiful *perſpiration*) does rather hurt then help them.

10. If there be any thing of the laſt dayes *perſpirable* matter remaining and that be not *excerned* by an afternoons ſleep, after that *ſleep* the head is affected with a weighty pain.

11. If four hours after the begining of ſleep the Meat *corrupt* in the *Stomack* then is *perſpiration* ſtopt and *watching* ſucceeds.

12. There is no reason that oftner makes watching than the *corruption* of the Meat in the stomach.

13. Sleep is more profitable in the Winter than in Summer; For in the Winter by the dawning of the day the Body becomes more warm, and perspires better than it does in the Summer.

14. A little of any *generous Wine* or of *Garlick* procures sleep and *perspiration*, but too much of either of them hinders it, and causes sweating.

SECT. V.

Of Exercise and Rest.

1. In violent motion the *perspiration* is for the most part of *crude* and *inconcocted juices*.

2. *Sweat* is alwayes from a *violent* cause and hinders due *perspiration*.

3. The Body *perspires* more in rest then when it is oft turned from side to side by frequent *agitation*.

4. In a long journey those that are *cheerful* or *angrie*, weary least.

5. Exercise after the seventh unto the twelth hour from taking Meat, resolves more in the space of an hour, than three hours

hours of another time does.

6. Rest disposes Bodies extraordinarly to *perspiration*, yet long rest makes sick Bodies heavier, which fomenting their sickness, brings death.

7. Pains of the Feet coming from long lying are cured by walking, but these that come by much walking are cured by rest.

8. The exercise of the Body evacuats *sensible Excrements*; but that of the mind *insensible* ones.

9 By too much exercise the *Excrements* of the first and second *Concoction* are eliminate by the *superfice* of the Body, which binds the Belly.

10. Continual exercise of both Body and mind makes Bodies lighter, brings quickly old Age, and untimely Death.

11. Violent exercise in Bodies filled with crude Juices, evacuates less than usual of sensible Excrements, but of the insensible, almost nothing.

12. In sleep the Body *perspires* more than in exercise, and thereby the Belly is also made soluble.

13. *Frictions* and *Cupping* Glasses in those filled with crude Juices hinder *perspiration*.

14. Violent exercise where the wind blows is evil, for the wind stops the *perspiration*,

tion, and the motion makes it *acrimonious*.

15. *Riding* promoves the *perſpiration* moſt in the parts above the Loins: *Ambling* is moſt wholſome, but *Trotting* unwholſome.

16. The motion of a *Boat* or a *Litter* long uſed, diſpoſes extraordinarly to *perſpiration*.

17 Violent motion of a *Coach*, evacuates the unconcocted *perſpirable Matter*, and hurts the ſolid *Parts* and the *Reins*.

18. The exerciſe of the *Pennyſtone* diſpoſes very much to *perſpiration*.

19. *Perſpiration* wanting to perſons in health is promoved by *Exerciſe*.

20. By immoderate exerciſe the *Fibres* grow hard, whence comes old Age; but ſoftneſs of the *Fibres*, keeping them open, makes long life.

21. A Youthful Face is long preſerved by avoiding *ſweating* or *perſpiring* too much throw heat.

SECT. VI.

Of VENERY.

1. TOo much *Abſtinence*, and too much *Uſe*, both hinder *Perſpiration*.

2. *Venery* does good, when after the next ſleep there is no wearineſs found.

3. Im-

3. Immoderat *Venery* with a Person very much desired, hurts least.

4. After an inclination to *Venery* to forbear, does bring agility of the Body.

5. The present effect of immoderat *Venery* is the Refrigerating the *Stomack*; and the subsequent is the hindring of *Perspiration*: Whence come *Palpitations* in the *Eye-Brows*, and in the *Joints*, and thereafter in the principal Members.

6. Immoderat *Venery* hurts most in the Summer.

7. Those that in *Venery* purposely do not emit *Sperm*, fall into tumors of the *Testicles*.

8. Immoderat *Venery* after the Stomack hurts the Eyes, generates the Stone, Cathahes, and Palpitation of the heart.

9. Flatulent Aliments after *Venery*, such as *Oysters* and *New Wine*, are pernicious.

10. While *Venery* is to be used, little or nothing is to be eaten: And while you must eat, little or no *Venery*.

11. *Venery* prompted by Nature is beneficial, but prompted by the mind, hurts both mind and memory.

12. After exercise *venery* is unwholesome; After Meat not so much, but after sleep it is most wholsome of all.

TITTLE

SECT. VII.

Of the Affections of the Mind.

1 BY *Sadness* and *Fear* the lightest of the *perspirable mater* only is *perspired*, the weightier remaining: by *Gladness* and *Anger* both *perspire*: whence *Sadness* and *Grief* breeds obstructions, *Hardness* of the Parts, and *Hypochondriack* affects.

2. Nothing makes *Perspiration* more free than a *Contented Mind*.

3. *Sadness* and *Grief* hinders the grosser *perspirable matter* to be evacuat; And that retained, by every light Cause begetts *Fear* and *Sadness*.

4. The *Acrimony* of the *perspirable matter* retained by *Grief*, is taken off by *Chearfulness*.

5. These that go to Bed sad at night *perspire* little.

6. *Melancholy* is overcome either by a free *perspiration* or by *continual* consolation of the Mind.

7. *Chearfulness* without an evident Cause that proceeds from the *Perspiration* succeeding well, makes the Body become lighter

8. *Moderate Joy* evacuationly the *superfluous Matter*; but *Immoderate Joy* that that's useful.

9. A *Surprising Joy* hurts more than that which is foreseen: for it makes the *Spirits* totally exhale.

10. *Joy* persevering many dayes hinders *Sleep*, and dissolves the Strength.

11 *Aliments* that promove *Perspiration* make *Chearfulness*, and these that hinder it make *Sadness*.

12. These that are of a *Choleriek* Nature are much hurt by *immoderat Exercise*: so *Hyppocrates* forbad such to use *frictions* and *wrestlings*.

13. The Body at rest *perspires* more, if the Mind be exercised: Then when the Body is exercised and the Mind idle.

14. So the immoderat Exercise of the *Mind*, hurts more than that of the *Body*.

15. The *Body* would wither and perish without the exercise of the *Mind*, but not contrarywayes.

16. A vehement *motion* of the Mind is neither settled by *Rest* nor *Sleep*.

17. Such as in *Game* do very earnestly desire to gain, do not *Play* but *Labour*, and do exceedingly divert *Perspiration*.

18. A *Moderat Victory* is more wholesome than

than a *Glorious One.*

19. Study with change of *Affections* is longer indured, than under one *Affection* of the Mind.

20. Study without all *Affections* scarce endures an hour, with on *Affection* scarce four; with frequent change of *Affections*, as in the the play of the Dice, it will be endured Dayes and Nights

21. To be sometimes Merry, sometimes *S*ad, and then again Angry, and nixt afraid This change of *Affections* helps *Perspiration* more then one of the best *Affections* alwayes continuing does.

FINIS.